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ECONOMIC AND INDUSTRIAL AFFAIRS

No. 1972

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ADVANTAGES, DISADVANTAGES OF GDR **INTEGRATION** IN CEMA ANALYZED

West Berlin DIW-VIERTELJAHRSHEFT in German Vol 48 No 3, 1979 pp 261-273

[Article by Jochen Bethkenhagen and Horst Lambrecht: "Growth Promoting and Growth Inhibiting Effects of the GDR's Integration in CEMA." A slightly revised version of a contribution by the authors to the 12th GDR Researchers Session in Lerbach, May 1979. The original version is soon to be published in a special edition of the Cologne DEUTSCHLAND-ARCHIV]

[Text] Motives and Objectives of the GDR's Foreign Trade Activities

The economy of the GDR has traditionally been strongly oriented toward foreign trade. The GDR is a country lacking in raw materials and its domestic market is limited. Consequently, the foreign trade activities have always focused on the necessary complementation of the available resources and on expanding the markets with the object of making production more cost-effective.

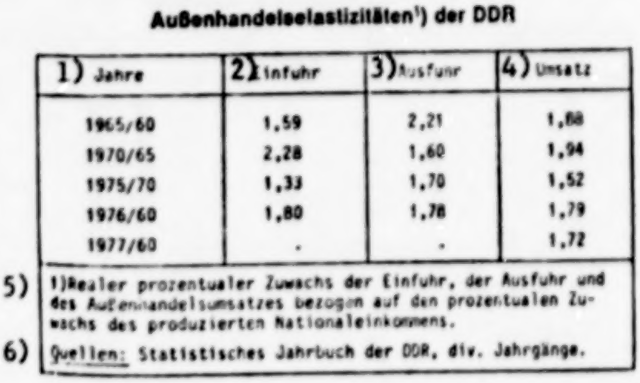
On account of the scarcity of resources and the limitations of the market, the GDR--like all modern industrialized states--is compelled constantly to increase its imports of raw materials, materiel and machines. This in turn forces the GDR economy to increase its exports.

Thus the economic facts and the economic policy goals--growth and increased affluence--increasingly necessitate international division of labor, disproportionate expansion of GDR foreign trade, and increased cultivation and development of the other--in part higher--forms of international economic cooperation.

In addition, the GDR needs competition with equal and superior partners; it needs to be exposed to external pressure toward continuous innovation: Ultimately, it is only through competition with foreign countries that optimal use of the production factors can be attained.

This calls for communication, exchange of the experience gained in regard to scientific and technological developments, and knowledge of market

Table. GDR Foreign Trade Increases[1)]



Außenhandelselastizitäten[1)] der DDR

1) Jahre	2) Einfuhr	3) Ausfuhr	4) Umsatz
1965/60	1,59	2,21	1,88
1970/65	2,28	1,60	1,94
1975/70	1,33	1,70	1,52
1976/60	1,80	1,78	1,79
1977/60	.	.	1,72

5) 1)Realer prozentualer Zuwachs der Einfuhr, der Ausfuhr und des Außenhandelsumsatzes bezogen auf den prozentualen Zuwachs des produzierten Nationaleinkommens.

6) Quellen: Statistisches Jahrbuch der DDR, div. Jahrgänge.

Key:

1. Years
2. Imports
3. Exports
4. Turnover
5. Footnote 1: Real percent increases in imports, exports, and foreign trade turnover in relation to the percent increase in national income
6. Sources: "Statistisches Jahrbuch der DDR" [GDR Statistical Yearbook], various years

trends and changes in demand. Only in this way will the GDR be able to reach or codetermine the world standard or at least to maintain it.

These are objective necessities. They apply irrespective of the social systems, i.e. they apply to the GDR as well. To try to sidestep these necessities would mean consciously to accept reduced growth, and it would make even more apparent the disparity between the GDR and the FRG in regard to the level of affluence.

Apart from the economic facts and the requirements concerning economic policy, the fact that the GDR is an integral part of the community of socialist states led by the Soviet Union entails additional consequences:

The GDR belongs to a community of states that organizes its foreign trade relations in accordance with primarily political criteria. Thus the GDR leadership is not concerned with the question whether from an economic point of view it is expedient to be part of an economic bloc whose labor productivity, technological development and individual welfare (per capita national product) are on the whole below the level attained by the GDR.

In examining the motives and objectives of the GDR's foreign trade activities, these facts must be taken into consideration.

Growth Factors of the GDR Economy

Economic growth can be attained through expansion or through a more intensive utilization of the production factors, labor and capital. In contrast to many Western industrialized countries, the GDR has almost completely exhausted its manpower potential. At present, the labor volume can be increased only to a limited extent. Moreover, sociopolitical improvements such as the present extension of vacations further reduce the total labor volume, and industrial production gains and increases in the national product must be attained in even greater measure through increased productivity.

Likewise, on account of the consumer requirements, which must be taken into consideration and which call for a high rate of consumption, there are limits to an expansion of fixed assets--the equivalent of a high rate of investment. Thus a more intensive utilization of labor and capital is of increasing importance for the GDR's economic growth. Production increases obtained with the labor and capital volume remaining unchanged are attributable to another production factor that is generally called technological progress.

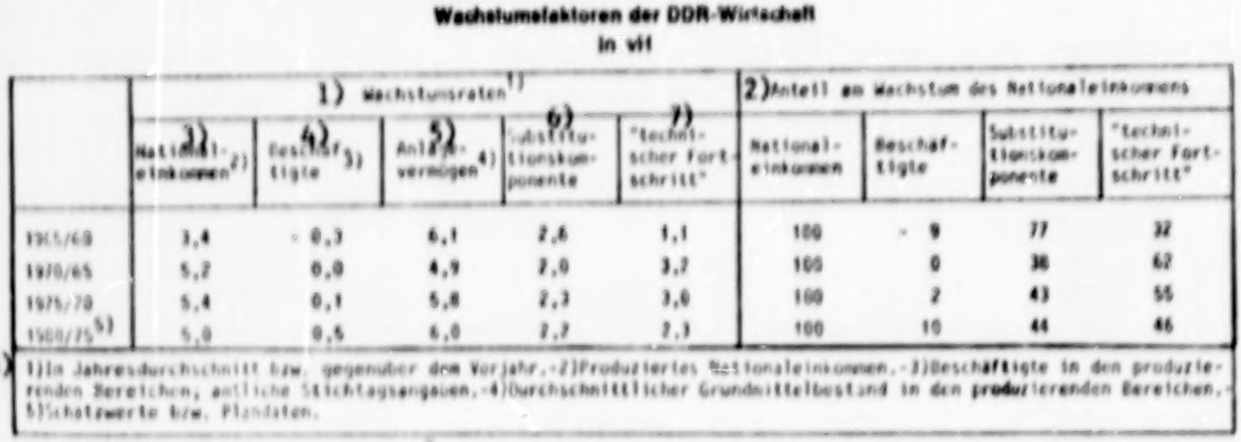
Through a rough calculation,[1] one can gain a quantitative understanding of the importance of technological progress for the GDR economy. By means of a Cobb-Douglas production function, the relative economic importance of the individual growth factors can be determined:

The results of this calculation clearly show that during the last two Five-Year Plans technological progress accounted for more than 50 percent of the economic growth; this will probably be the case in the current Five-Year Plan as well.[2] Since in the 1980's--in contrast to present conditions--marked increases in the labor volume will no longer be possible,[3] the progress component will again be increasingly important. So far, the share of the so-called substitution component,[4] which essentially is determined by the increase in capital input, has been almost as large as that of technological progress. In other words: Despite the increase in the rate of employment, the GDR growth rate is presently almost exclusively determined by technological progress and increased capital input.

In the above calculation, the progress component is a residual quantity. Thus it reflects the influence of various factors, each of which brings about an increase in production with capital and labor input remaining equal. Of these factors, the most important are the following:

--Structural change,
--efficiency measures,
--concentration,
--technological know-how,
--foreign trade.

Table. Growth Factors of the GDR Economy



Wachstumsfaktoren der DDR-Wirtschaft
in vH

	1) Wachstumsraten 1)					2) Anteil am Wachstum des Nationaleinkommens			
	3) Nationaleinkommen 2)	4) Beschäftigte 3)	5) Anlagevermögen 4)	6) Substitutionskomponente	7) "technischer Fortschritt"	Nationaleinkommen	Beschäftigte	Substitutionskomponente	"technischer Fortschritt"
1965/60	3,4	- 0,3	6,1	2,6	1,1	100	- 9	77	32
1970/65	5,2	0,0	4,9	2,0	3,2	100	0	38	62
1975/70	5,4	0,1	5,8	2,3	3,0	100	2	43	55
1980/75 5)	5,0	0,5	6,0	2,2	2,3	100	10	44	46

8) 1)Im Jahresdurchschnitt bzw. gegenüber dem Vorjahr.-2)Produziertes Nationaleinkommen.-3)Beschäftigte in den produzierenden Bereichen; amtliche Stichtagsangaben.-4)Durchschnittlicher Grundmittelbestand in den produzierenden Bereichen.-5)Schätzwerte bzw. Plandaten.

Key:

1. Growth rates
2. Share of increase in national income
3. National income
4. Labor force
5. Fixed assets
6. Substitution component
7. "Technological progress"
8. Footnote 1: Annual average or as compared to the preceding year. Footnote 2: National income produced. Footnote 3: Work force in the production sectors; official key-day data. Footnote 4: Average basic assets in the production sectors. Footnote 5: Estimates or plan figures.

Foreign trade is of special importance in this respect. By complementing the country's own production potential (e.g. procurement of raw materials), it has a direct effect on growth. An indirect effect results from the fact that the other factors are likewise affected by foreign trade[5]:

--The /structural change/ [words in italics] in the sense of disproportionate expansion of highly productive areas is influenced by changes in demand caused by factors such as specialization agreements. The international competition forces the domestic suppliers to respond to changes in demand, thus accelerating the structural change.

--The /rationalization rate/ [words in italics] can be speeded up as much through the quality of the integration partners' commodity supply--above all through the technological know-how contained in these products--as through the import of more efficient organizational structures. The competition for export market shares intensifies the pressure toward rationalization. It is not least through market expansion that production can be made more cost-effective.

--/Concentration tendencies/ [words in italics] are furthered above all by extensive purchase commitments of the foreign trade partners (e.g. on the basis of specialization agreements).

--The /technological know-how/ [words in italics] can be improved through import of patents and licenses as well as through international scientific-technological cooperation. Research funds can be used more efficiently through international concentration.

Proceeding from an analysis of the forms of integration, we will in the following examine trends in regard to growth-promoting and growth-inhibiting effects of the cooperation in CEMA on the GDR economy.

The Forms of Cooperation in CEMA

Historical Survey

Since the establishment of the Council for Mutual Economic Assistance (CEMA) in 1949, the forms of economic cooperation have changed considerably. Generally speaking, a trend toward more intensive cooperation is evident; moreover, there is now a greater variety of methods. Considering the focal points of cooperation and the organization of activities, one can differentiate between the following--chronologically more or less distinct--phases:

--The 1950's,
--the 1960's,
--the 1970's.[6]

In the 1950's, decisions affecting economic practice were not taken until 1954.[7] During this period, the integration efforts focused on problems concerning the coordination of bilateral trade relations. Within the framework of this area of main concern, there were developed the principles concerning the price fixing procedure in the CEMA intra-bloc trade, which then were adopted in 1958. The regulations, which remained in force until 1974, provided for bilaterally negotiated contractual prices, which were based on world market prices and a certain reference period.

Other prominent events of the 1950's were the following: The efforts to establish a functional organizational framework for the community (1954: establishment of the Permanent Secretariat in charge of the administrative work; 1957: establishment of Permanent Commissions) and the passing of the first statute of the community; this statute establishes the principles of cooperation and the functions and powers of the Council.

In terms of integration policy, the 1960's were especially significant for CEMA, since during this period

--there was passed (1962) an important program for the further development of CEMA--namely the "Basic Principles of the International Socialist

Division of Labor"--and since

--for the first time problems concerning monetary and financial policy were considered and the first concrete results in this field were presented: In 1963, the International Bank for Economic Cooperation (IBWZ) was set up and the Transfer Ruble (TRbl) was established as a common clearing unit.[8]

In the "Basic Principles," the coordination of the national economic plans is declared the principal method of cooperation. This coordination is to extend to long-term prognoses in selected fields (e.g. energy sector, industrial raw materials, petrochemical industry, complex machine and equipment systems); in addition, the focus will be on medium-term plan coordination. In this respect, the coordination of the Five-Year Plans is to concentrate on the following areas of main emphasis:

Principal trends of scientific-technological cooperation,

Development of production specialization and cooperation,

Individual investment projects of mutual interest, e.g. projects concerning the expansion of the fuel and raw materials base,

Structure, volume and delivery dates in the reciprocal exchange of goods and services.[9]

The study of problems concerning financial and currency policy (or to use the terminology of the political economy of Socialism: international commodity-money relationships) resulted from the--up to that time futile--efforts of some member states to provide the CEMA intra-bloc trade with a multilateral basis. At the same time, it was intended--through the creation of instruments of financial and currency policy--to establish the conditions necessary for international production cooperation and specialization. Since 1964, there have been established various special organizations of the CEMA countries (not CEMA organs!) such as "Intermetall" for the coordination of the iron and steel industry and "Interchim" (head office at Halle/Saale) for the coordination of the CEMA countries' chemical industry.

The period of the 1970's is characterized above all by a large-scale discussion on "socialist economic integration," by the adoption of the "Complex Program for the Further Intensification and Improvement of Cooperation and of the Development of the CEMA Member Countries' Socialist Economic Integration" in 1971 and by the beginnings of a joint policy vis-a-vis third countries.[10] During this period, an agreement was reached on the by now annual adjustment of the intra-bloc market prices to world market prices.[11]

The Complex Program stipulates for CEMA a transitional period of 15 to 20 years, during which the economic cooperation among the member states is to be intensified. The ultimate strategic objective--integration in the sense of an amalgamation of the national economies--is not included in the Complex Program; rather, it is intended--in the course of a progressive integration process--to pursue several objectives. Of these objectives, the economic goals[12] include the following: acceleration of economic growth, raising the standard of living, and gradual assimilation of the levels of economic development. These objectives are obviously very general and thus cannot be considered a guideline for any concrete economic policy. For the first time in the history of CEMA, the Complex Program sets concrete target dates for a number of fields--which in terms of procedure is undoubtedly a progressive move and an indicator of the strength of the community's common resolve. However, as is shown by interim results, sufficient progress in regard to integration is not insured thereby: The target dates set for certain concrete monetary and financial measures have not been met.

Likewise, no progress has been made in regard to joint planning. It had been intended to gain experience in this field through the establishment of international economic organizations. In the beginning, a number of such institutions were established (the GDR belongs to Assofoto and Domochim [not further identified]), but no new organization has been founded in the recent past.[13]

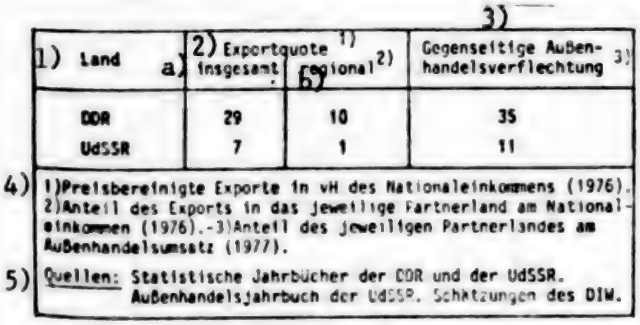
Present Status

To a large extent, the forms of integration are prescribed by the economic system. Whereas countries organized in accordance with the principles of a free-market economy aim to establish a common market, joint planning must be considered the final stage of integration in countries characterized by central economic planning. However, due to the strongly developed sense of sovereignty, the CEMA states have not yet been able to reach agreement in regard to this objective.[14]

In the present phase of cooperation, plan coordination has evolved as the principal method of cooperation among the CEMA states--a preliminary stage of integration, as it were. Thus the sovereignty of the member states remains unimpaired; they cannot be forced into acts concerning economic policy by a supranational organ.[15] However, one cannot rule out the possibility that this principle will in practice be restricted through the economically weaker partner's exerting a strong influence in the negotiations on reciprocal deliveries. And the party exerting such influence is likely to be successful, if it occupies a quasi-monopolistic position in regard to the delivery of certain goods.

The exploitation of economic power is facilitated by the fact that the plan coordination is still primarily carried out on the bilateral level. To be sure, there is a CEMA committee for cooperation in the field of planning. However, in view of the bilateral clearing of foreign trade transactions, it is understandable that the coordination work is for the most part carried out by the respective bilateral government commissions that are staffed on a basis of equal representation.[16] Due to its high technological level, the GDR probably occupies a relatively strong position in these commissions. However, for various (economic) reasons, this does not go for the GDR's position vis-a-vis the Soviet Union. Considering the export rate, the GDR's dependency on foreign trade is four times as great as that of the Soviet Union. Thus decisions pertaining to foreign trade are not as important for the Soviet economy as such decisions are for the GDR. Likewise, the trade relations between the GDR and the USSR are characterized by asymmetry: The weight of Soviet goods on the GDR market is 10 times as great as that of GDR goods in the USSR. Moreover, in regard to some imported goods, Soviet shipments account for an extraordinarily large share.

Table. Indices Concerning Trade Relations Between the GDR and the USSR (%)



1) Land	2) Exportquote [1)] a) insgesamt	b) regional[2)]	3) Gegenseitige Außenhandelsverflechtung [3)]
DDR	29	10	35
UdSSR	7	1	11

4) 1)Preisbereinigte Exporte in vH des Nationaleinkommens (1976). 2)Anteil des Exports in das jeweilige Partnerland am Nationaleinkommen (1976).-3)Anteil des jeweiligen Partnerlandes am Außenhandelsumsatz (1977).

5) Quellen: Statistische Jahrbücher der DDR und der UdSSR. Außenhandelsjahrbuch der UdSSR. Schätzungen des DIW.

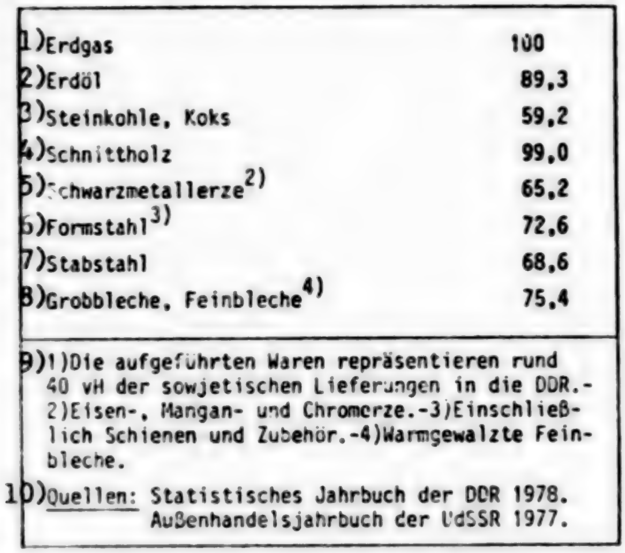
Key:

1. Country
2. Export quota
   a) total
   b) regional
3. Reciprocal foreign trade relations
4. Footnote 1: Price-adjusted exports as a percentage of the national income (1976). Footnote 2: Share of exports to the respective partner country of the national income (1976). Footnote 3: Share of the respective partner country of the foreign trade turnover (1977).
5. Sources: Statistical Yearbooks of the GDR and of the USSR. USSR Foreign Trade Yearbook.

The GDR's position in the export field is not as strong. In regard to its most important export category--machines and equipment--the GDR even lost ground on the Soviet market. Whereas in 1970 this category had accounted for 24 percent of Soviet imports, in 1977 its share had dropped to 17 percent.

An important objective of cooperation in CEMA is the optimal distribution of production among the member states. /Specialization and cooperation agreements/ [words in italics] are to make production more cost-effective: If the production of a certain commodity is concentrated in one or a few countries, it is possible to pool the expenditures for research and

Table. USSR Share of GDR Imports for Certain Goods or Categories, 1977 (%)



1)Erdgas	100
2)Erdöl	89,3
3)Steinkohle, Koks	59,2
4)Schnittholz	99,0
5)Schwarzmetallerze2)	65,2
6)Formstahl3)	72,6
7)Stabstahl	68,6
8)Grobbleche, Feinbleche4)	75,4

9)1)Die aufgeführten Waren repräsentieren rund 40 vH der sowjetischen Lieferungen in die DDR.- 2)Eisen-, Mangan- und Chromerze.-3)Einschließlich Schienen und Zubehör.-4)Warmgewalzte Feinbleche.

10)Quellen: Statistisches Jahrbuch der DDR 1978.
Außenhandelsjahrbuch der UdSSR 1977.

Key:

1.	Natural gas	5.	Ferrous metal ores
2.	Petroleum	6.	Structural steel
3.	Pit coal, coke	7.	Bar steel
4.	Lumber	8.	Metal plate, thin-gauge plate

9. Footnote 1: The products listed constitute ca. 40 percent of Soviet shipments to the GDR. Footnote 2: Iron, manganese and chrome ores. Footnote 3: Including rails and related equipment. Footnote 4: Hot-rolled thin-gauge plate.
10. Sources: GDR Statistical Yearbook, 1978. USSR Foreign Trade Yearbook, 1977.

development projects, to exploit the advantages of mass production, and to reduce the marketing costs per unit. The most striking example of specialization is the concentration of autobus production in Hungary (Ikarus buses). For the GDR, an intensified production concentration is of great importance, for due to its broad product assortment it is forced to produce many commodities in quantities far below the international optimum. That this is "bound to have an inhibiting effect on efficiency increases" was recently pointed out by Morgenstern.[17]

While specialization and cooperation agreements offer various advantages, there are considerable disadvantages as well:

--Lack of competition: The supplier of specialized products turns into a monopolist; in price negotiations, he thus occupies a strong position and due to the lack of competition he is not subject to any pressure toward innovation.

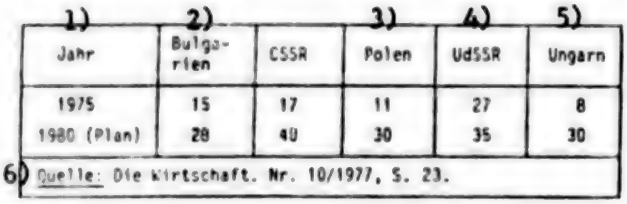
--Insufficient reliability: Some of the CEMA states are reluctant to agree to the required termination of domestic production; they fear that the shipments from the partner country may not be delivered in due time or may not meet the quality requirements and that irregularities in regard to spare parts supplies may be more frequent than in domestic production.[18] The penalties stipulated for such cases cover as a rule only a fraction of the actual damage incurred.[19]

--Lack of flexibility: Enterprises contracting to produce specialty products must continuously adjust their production process to the technological advances. The plan frequently does not make allowance for the imports necessary for this purpose; as a result, there occur undesirable, growth-inhibiting delays.[20]

--Lack of efficiency criteria: Since economically grounded rates of exchange are nonexistent, CEMA lacks criteria for evaluating the costs and benefits of specialization agreements.[21]

In spite of these problems, the share of specialized products in intrabloc trade as a whole has increased sharply during this decade. In the case of the GDR, it increased from about zero percent in 1970[22] to 21 percent in 1975.[23] In 1980, it is expected to account for as much as one-third of all the goods the GDR shipped to or received from CEMA countries (excluding Romania):

Table. Share of Specialized Products in GDR Foreign Trade With Other CEMA Countries (%)



1) Jahr	2) Bulgarien	CSSR	3) Polen	4) UdSSR	5) Ungarn
1975	15	17	11	27	8
1980 (Plan)	28	40	30	35	30

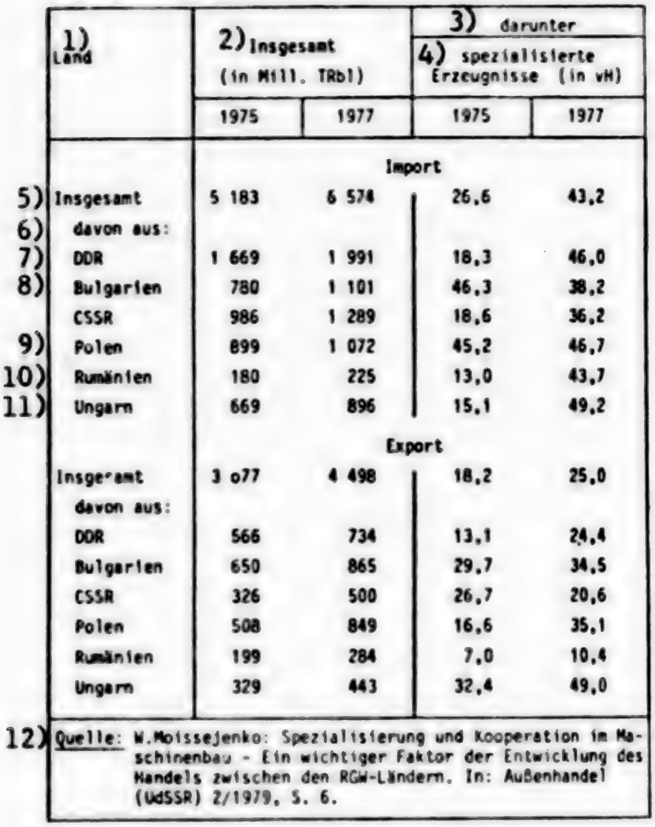
6) Quelle: Die Wirtschaft. Nr. 10/1977, S. 23.

Key:

1. Year
2. Bulgaria
3. Poland
4. USSR
5. Hungary
6. Source: DIE WIRTSCHAFT, No 10, 1977, p 23

Geographically, the specialization agreements were concentrated on the trade with the USSR; in terms of the commodities concerned, the focus was on machines and equipment. As early as 1977, specialized products accounted for one-third of CEMA trade in this category; as for GDR shipments to the USSR, as much as 46 percent involved specialized goods. But here, too, the asymmetry is striking, for as regards USSR shipments to the GDR, only 24 percent of all machinery exports were based on specialization agreements.[24] This could be an indication of a certain reserve on the part of the GDR in regard to entering into long-term import commitments. This seems to be confirmed by the fact that the CSSR--which aside from Romania is the second most developed CEMA country next to the GDR--likewise "specialized" relatively few machine imports from the USSR (21 percent):

Table. The USSR's Intra-Bloc Trade in Machines and Equipment, 1975 and 1977



1) Land	2) Insgesamt (in Mill. TRbl)		3) darunter 4) spezialisierte Erzeugnisse (in vH)	
	1975	1977	1975	1977
	Import			
5) Insgesamt	5 183	6 574	26,6	43,2
6) davon aus:				
7) DDR	1 669	1 991	18,3	46,0
8) Bulgarien	780	1 101	46,3	38,2
CSSR	986	1 289	18,6	36,2
9) Polen	899	1 072	45,2	46,7
10) Rumänien	180	225	13,0	43,7
11) Ungarn	669	896	15,1	49,2
	Export			
Insgesamt	3 o77	4 498	18,2	25,0
davon aus:				
DDR	566	734	13,1	24,4
Bulgarien	650	865	29,7	34,5
CSSR	326	500	26,7	20,6
Polen	508	849	16,6	35,1
Rumänien	199	284	7,0	10,4
Ungarn	329	443	32,4	49,0

12) Quelle: W. Moissejenko: Spezialisierung und Kooperation im Maschinenbau - Ein wichtiger Faktor der Entwicklung des Handels zwischen den RGW-Ländern. In: Außenhandel (UdSSR) 2/1979, S. 6.

Key:

1. Country
2. Total (in million TRbl)
3. Of this total
4. Specialized products (%)
5. Total
6. Of this total, from
7. GDR
8. Bulgaria
9. Poland
10. Romania
11. Hungary
12. Source: W. Moissejenko, "Specialization and Cooperation in Machine Building--An Important Factor in the Development of Trade Among the CEMA Countries," AUSSENHANDEL (USSR), No 2, 1979, p 6.

The aforementioned obstacles to specialization indicate that the sharp increase in the share of specialized products in intra-bloc trade represents a non-recurring event that merely served to cement the present production and foreign trade structure.[25] At present, there are hardly any production stops resulting from specialization agreements.

Thus, specialization within the framework of cooperation in CEMA is not (yet?) a systematic process in the sense of multi- or bilateral planning.

Rather, the agreements concluded merely established as definitive--and thus as binding--the historically evolved specializations. Thus the only new element is the obligation to accept delivery or the producer's obligation to deliver.

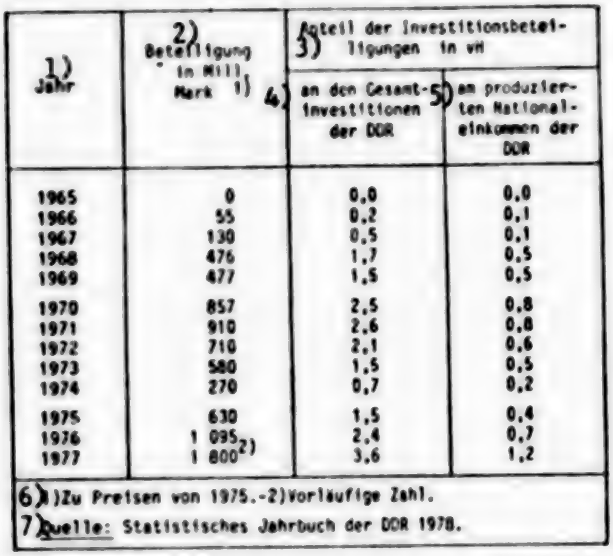
It is only with great hesitation that the advantages of specialization--in the sense of deliberate planning with the object of avoiding parallel efforts and developments and of taking advantage of mass production--are utilized in the development of new products (e.g. in introducing specialization in the production of a "Standard System of Electronic Calculation" (ESER) or in the joint development and construction of an automatic washing machine and the development of the "Polymir 50" plastics production process.

The development of so-called /long-term goal-oriented programs/ [words in italics] is to impart new impulses to the intensification of cooperation. In accordance with an agreement concluded at the 30th Council session in 1976, such programs are being drawn up in five selected sectors (raw materials and energy sector, agriculture, machine building, light industry, and transportation). On the basis of joint demand projections, the programs are to coordinate the necessary production and trade activities for a period of 10 years (up to 1990). Thus it is likely that specialization and cooperation agreements will be assuming increasing importance, along with /international investment sharing/ [words in italics].

The joint investments are in effect prolonged compensation transactions. The smaller CEMA states usually participate in the development of Soviet raw material sources. The credit thus granted is paid back by the USSR in the form of long-term raw material shipments. The country granting the credit does not acquire any ownership rights.[26]

At present, the GDR spends approximately 3 percent of its capital expenditures on joint investments, primarily in the Soviet Union (see Table). These expenditures will probably increase in the next few years, for the USSR has announced that it will not be able to increase its shipments of raw materials, unless the recipients agree to share in the necessary capital expenditures.[27]

Table. GDR Investment Sharing Within CEMA



1) Jahr	2) Beteiligung in Mill. Mark 1)	3) Anteil der Investitionsbeteiligungen in vH	
		4) an den Gesamtinvestitionen der DDR	5) an produzierten Nationaleinkommen der DDR
1965	0	0,0	0,0
1966	55	0,2	0,1
1967	130	0,5	0,1
1968	476	1,7	0,5
1969	477	1,5	0,5
1970	857	2,5	0,8
1971	910	2,6	0,8
1972	710	2,1	0,6
1973	580	1,5	0,5
1974	270	0,7	0,2
1975	630	1,5	0,4
1976	1 095	2,4	0,7
1977	1 800 2)	3,6	1,2

6) 1) Zu Preisen von 1975.-2) Vorläufige Zahl.

7) Quelle: Statistisches Jahrbuch der DDR 1978.

Key:

1. Year
2. Investment share (in million marks)
3. Share of joint investments (%)
4. of the GDR's total investments
5. of the GDR's national income
6. Footnote 1: At 1975 prices
   Footnote 2: Tentative figure
7. Source: GDR Statistical Yearbook, 1978

The Effect of Integration on the Economic Growth Rate of the GDR

Since there is no informative integration theory, it is not possible unequivocally to determine the effect of integration measures on the GDR's economic growth. The economic growth rate and the aforementioned growth components are influenced by a large number of domestic and foreign trade factors, the isolation of which represents a hitherto unsolved problem for empirical economic research. Nevertheless, one can discern a number of effects.

Commodity Exchange

Now as before, the /exchange of goods/ [words in italics] is the most important form of cooperation in CEMA. Thus there arises the question as to what growth-promoting or growth-inhibiting effects are produced by the GDR's--primarily intra-bloc--trade relations.

Theoretically, integration measures should have a trade-promoting effect. Considering the geographic structure of the GDR's foreign trade, one notes well developed and relatively stable intra-bloc relations--the decline in the share of imports from CEMA countries in the middle of the 1970's must be attributed to price effects.

With allowance made for price changes, the GDR foreign trade statistics since 1971--i.e. since the adoption of the Complex Program--even show an increase in the CEMA share by almost 3 percentage points.[28] At first glance, this seems to indicate a trade-promoting effect of the integration measures taken. However, taking into consideration the declining foreign trade elasticities, one realizes that what happened here was apparently merely a redirection of trade to the CEMA countries, i.e. even though the intensification of cooperation in CEMA resulted in even closer intra-bloc relations on the part of the GDR, it was achieved at the expense of trade with the countries outside the community.

Table. Geographic Structure of GDR Foreign Trade

1) Ländergruppe bzw. Land	1961-1965 2)	1966-1970 2)	1971-1975 2)	1976	1977	1978
				Einfuhr		
2) RGW-Länder	71,7	68,4	62,1	60,8	65,5	64
3) UdSSR	47,4	42,3	33,9	32,4	35,3	35,5
4) Sonstige sozialistische Länder	4,3	3,8	2,9	2,7	3,0	4
5) Westliche Industrieländer	20,1	23,9	30,9	31,8	26,4	27
6) Entwicklungsländer	3,9	3,9	4,1	4,8	5,1	5
				Ausfuhr		
RGW-Länder	72,9	69,3	68,9	67,5	70,5	71
UdSSR	44,7	39,9	36,6	32,7	35,3	38,9
Sonstige sozialistische Länder	4,0	5,3	3,8	3,7	4,1	4
Westliche Industrieländer	19,0	20,8	23,2	24,3	20,5	20
Entwicklungsländer	4,1	4,6	4,1	4,5	4,8	5

7) 1)Zu jeweiligen Preisen.-2)Jahresdurchschnitt. Angaben für 1978 sind vorläufig.

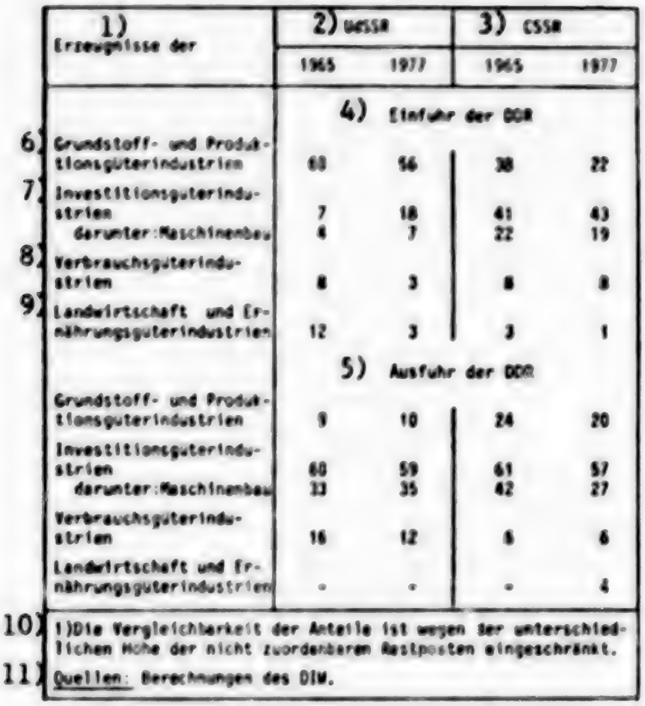
8) Quellen: Statistische Jahrbücher der DDR; Statistische Jahrbücher bzw. Statistische Außenhandelsjahrbücher Polens; Vgl. DDR-Wirtschaft auf flacherem Wachstumspfad. Bearb.: Doris Cornelsen. In: Wochenbericht des DIW. Nr. 5/1979; Berechnungen des DIW.

Key:

1. Country or group of countries
2. CEMA countries
3. USSR
4. Other socialist countries
5. Western industrialized countries
6. Developing countries
7. Footnote 1: At the respective prices. Footnote 2: Annual average. The data for 1978 are tentative.
8. Sources: Statistical Yearbooks of the GDR. Statistical Yearbooks of Poland. See D. Cornelsen, "Slower Growth for the GDR Economy," DIW-WOCHENBERICHT, No 5, 1979. Calculations of the German Institute for Economic Research.

The commodity structure of the GDR's trade with the CEMA countries, above all with its most important trade partner, the Soviet Union, is predominantly complementary, i.e. it involves for the most part an exchange of finished products for raw materials and semifinished goods.

Table. Commodity Structure of GDR Foreign Trade Broken Down by Country[1]) (%)



1) Erzeugnisse der	2) UdSSR		3) CSSR	
	1965	1977	1965	1977
	4) Einfuhr der DDR			
6) Grundstoff- und Produktionsgüterindustrien	60	56	38	22
7) Investitionsgüterindustrien	7	18	41	43
darunter: Maschinenbau	4	7	22	19
8) Verbrauchsgüterindustrien	8	3	8	8
9) Landwirtschaft und Ernährungsgüterindustrien	12	3	3	1
	5) Ausfuhr der DDR			
Grundstoff- und Produktionsgüterindustrien	9	10	24	20
Investitionsgüterindustrien	60	59	61	57
darunter: Maschinenbau	33	35	42	27
Verbrauchsgüterindustrien	16	12	6	6
Landwirtschaft und Ernährungsgüterindustrien	-	-	-	4

10) 1) Die Vergleichbarkeit der Anteile ist wegen der unterschiedlichen Höhe der nicht zuordenbaren Restposten eingeschränkt.

11) Quellen: Berechnungen des DIW.

Key:

1. Products of the
2. USSR
3. CSSR
4. GDR imports
5. GDR exports
6. Basic and producer goods industries
7. Capital goods industries, including machine building
8. Consumer goods industries
9. Agriculture and foodstuffs industries
10. Footnote 1: Due to the difference in value of the nonassignable residual items, the comparability of the shares is limited.
11. Sources: Calculations of the German Institute for Economic Research.

This is the commodity structure typical of the trade between a developed industrial country and less developed countries. It is evident from the trade between the GDR and the CSSR that as the developmental level rises, the commodity exchange increasingly assumes a substitutive character (increasing exchange of similar products accompanied by an increase in the share of finished goods). In this trade--in contrast to the commodity exchange with the USSR--capital goods are predominant, whereas raw materials and producer goods play a secondary role.

Generally speaking, one can say that the GDR imports from the CEMA countries are for the most part made up of raw materials.[29] Thus the GDR's import balance is weighted too much in favor of raw materials; "the higher labor productivity of other countries is not imported" to the extent desirable. Consequently, the substitution of domestic manpower by imported capital, i.e. by labor-saving machinery, cannot be sufficiently utilized as a growth factor.

There are two reasons for this: Firstly--as was pointed out above--it is a commodity structure-related problem; secondly, the problem is related to the structure of the individual countries. Even if the GDR had more latitude--within the framework of the given geographic structure of its foreign trade--in regard to capital goods imports, most of the CEMA countries would not be able--at least not to any considerable or desirable extent--to impart growth impulses to the GDR through transfers of advanced--i.e. above all labor-saving--technology.

This situation is similar in regard to GDR exports. As is well known, the crucial element in the export sector is machine building: Machines, equipment and meaas of transportation account for 50 percent of exports. On account of the fact that the GDR exports to the CEMA countries 85 percent of the machines produced for foreign markets[30]--45 percent of all machinery exports go to the USSR--it largely escapes the most intense competition with the most highly developed Western countries. Thus the GDR has to do without the driving force of competition, which stimulates cost cutting, qualitative improvements and technological progress.[31]

A positive aspect of the strong Eastern orientation of the trade relations is the fact that the GDR can for the most part meet its raw material requirements within the CEMA bloc. This increases the assurance of steady supplies. In this respect, the Soviet Union's function appears to be similar to that of the developing countries vis-a-vis the Western industrialized states.[32]

On the other hand, the complementary commodity structure also contains conflict potential--especially in times of rapid price increases. If the prices for industrial finished goods and raw materials increase at different rates, the result is an international redistribution of income. That such conditions led to conflicts in CEMA as well is evidenced by the new price fixing regulations for foreign trade, which were adopted in 1975--obviously at the request of the Soviet Union. However, the results indicate that the Soviet Union did not fully exploit the margin provided by the world market prices, probably because it was aware of the fact that the distribution of profits and expenditures between the USSR and its smaller partners is very unequal: If the price margin were fully exploited, the benefits derived by the USSR would be immaterial, whereas the losses of the CEMA partners would be felt very strongly.

Nevertheless, the increases in the prices of raw materials resulted in a very unfavorable balance of trade; the GDR had to accept a considerable deterioration of the terms of trade: The value of total imports of fuel, mineral raw materials and metals increased from 6.7 billion valuta marks (1973) to 14.5 billion valuta marks (1977); the import/export balance of this category increased from 4.7 billion valuta marks in 1974 to 9.8 billion valuta marks in 1978. Comparisons of prices[33] for raw materials imported from the USSR show that in eight important categories (they account for approximately two-fifths of GDR imports from the Soviet Union) there were price increases averaging almost 50 percent between 1974 and 1976. Thus, in regard to certain raw material imports[34] from the Soviet Union, the GDR had to meet price increases of approximately 3.9 billion valuta marks, i.e. the equivalent of 30 percent of the total GDR exports to the USSR (1976).

In this respect, one must also take into consideration that due to the delayed adjustment of intra-bloc prices to world market prices, the GDR is presently getting its raw materials on relatively favorable terms: If it had immediately been confronted with the world market prices, the deterioration of its terms of trade would have been even more pronounced.[35]

Moreover, the GDR derived benefit from the fact that the Soviet Union was prepared partially to offset the GDR's increased expenditures on raw materials by granting credit: Apparently, one of the reasons why the Soviet Union does not insist on immediate return shipments is the desire not to create for the smaller partner any economic--and thus possibly political--difficulties resulting from the aforementioned unequal distribution of profits and expenditures.[36]

Other Forms of Cooperation

The exchange of goods between the GDR and the CEMA states is carried out on the basis of plan coordination. Prima facie, the GDR derives considerable benefit from this coordination: The state planning organs are able to include most of the foreign trade in the plan on a medium-term basis; and the enterprises are assured of relatively stable markets. Furthermore, the fact that one of the CEMA member states, the USSR, has a sufficiently large domestic market to buy large production series serves to promote /concentration/ [word in italics] in GDR industry and leads to /rationalization possibilities/[words in italics] and thus cost reductions. However, it is doubtful whether the interest in innovation is strengthened in the long term as well. For once the sale of a certain commodity is assured, both customers and producers are fixed on certain indices, and the enterprises no longer feel compelled quickly to bring their products up to the constantly rising world standard, let alone to try to gain a leading position. Thus, the stability of trade relations is obtained at the expense of their efficiency.

An inhibiting factor in regard to the development of commodity exchange is the form of plan coordination hitherto practiced by CEMA. As a result of bilateralism, the respective "weaker" partner's delivery capacity or willingness to take delivery imposes limits on the trade volume. Certainly, this is one of the reasons why in international terms the GDR's foreign trade intensity is relatively low.[37] It also serves to curb the growth promoting effects customarily derived from foreign trade.

Generally speaking, the increasing incorporation of the science and technology plans in the plan coordination can lead to an accelerated expansion of /technological know-how/ [words in italics]. If no parallel projects are pursued, the research spectrum can be broadened with the given funds. However, since research results can be planned only to a very limited extent, there arises the question whether in the interest of a more rapid development a certain measure of parallel research may actually be useful. Apparently, this is not the view taken by the CEMA states; on the contrary, they complain about the fact that despite declarations of intent the "cooperating ministries and other agencies of the CEMA countries have not yet succeeded in precluding parallel projects in the bi- and multilateral relations."[38]

As far as the GDR is concerned, the growth-promoting effect in this area must be regarded as relatively minor. Technologically, the GDR is the most advanced of the CEMA countries in most fields, and it must be assumed that it plays the part of the giver in the technology sector.

Consequently, there are only few instances of successful scientific-technological cooperation. Noteworthy in this connection is a plastics production process ("Polymir 50") jointly developed by the GDR and the USSR. The FRG was granted the license to use this process.[39]

Likewise, an evaluation of the specialization and cooperation agreements from the point of view of growth promotion is bound to be ambivalent. Generally speaking, such agreements have a trade-promoting effect. Goods that formerly were produced and consumed in different countries are now traded. Due to larger series, this results in concentration and rationalization effects. It is doubtful, however, whether such effects have been achieved within CEMA to an appreciable extent: Moissejenko points out that the recent agreements on specialization and cooperation in the machine building sector "did not directly influence the growth of commodity turnover beyond the framework of the long-term trade agreements."[40] But in the interest of greater efficiency an increasing concentration of production would be desirable. However, the fact that 50 percent of all products of the GDR machine building sector are produced in series totaling fewer than 50 pieces[41] indicates that there is a considerable--as yet untapped--potential for growth acceleration.

Likewise, in view of past experience, a significant effect of the specialization and cooperation agreements on /structural change/ [words in italics] in the GDR is neither likely nor can it be demonstrated. Thus the share of motor vehicle construction and machine building--i.e. the sectors on which the specialization agreements are presently concentrated--in industrial growth output did not significantly change from 1970 (24.9 percent) to 1975 (24.2 percent).[42] On the other hand, apart from the EDP sector (ESER), no specialization agreements have come to light in the electronics/electrical engineering/apparatus construction sector. And it is the promotion of this sector in particular that is to determine the future structural change of GDR industry.[43]

In view of aforementioned problems in the foreign exchange sector, this finding is not surprising. Since economically grounded rates of exchange are nonexistent, it is impossible optimally to coordinate domestic production and imports. So far, it has not been possible to overcome the considerable difficulties in regard to an economic evaluation of alternative production structures.

In addition, there is the fear of being "at the mercy" of the partner after a reorganization of production. This is a problem that until very recently was never openly discussed. Medwedkow points out that the specialization agreements must not be restricted to a redistribution of production programs and he calls for the joint development of new technological processes and new machines.[44] In other words, even after relinquishing production the partner wants to have the contractually guaranteed right of codetermining or participating in the technological development. In this sector, matters have not yet moved past the experimental stage. Against this background, it stands to reason that generally speaking the growth-promoting effect of specialization and cooperation agreements must be regarded as insignificant.

In evaluating /investment sharing/ [words in italics], one must differentiate between short- and long-term effects. In the short term, the export of capital goods and consumer goods and the dispatch of manpower to partner states have a growth-inhibiting effect, for these exports are for the time being not reciprocated. Thus the credit-granting countries, including the GDR, must forego the use of domestically produced goods. If goods are imported from the West--as was the case during the construction of the natural gas pipeline from Orenburg to the western border of the Soviet Union--the foreign exchange spent is not available to the country for urgently required Western imports of its own.

In the long term, these disadvantages are offset by the repayment of the credit. The interest charged is intended to compensate for the temporary discontinuance in the use of capital resources. It remains doubtful, however, whether the 2-percent rate paid by the USSR for such projects fulfills such a function. To be sure, in times of relatively stable foreign trade prices in CEMA intra-bloc trade, this rate was in keeping with the real interest charged in Western markets. However, in view of the fact that the foreign trade prices have been increasing continuously since 1975, this interest rate no longer even makes up for inflation. Thus one can safely assume that the drawbacks of investment sharing offset to some extent the benefits that the smaller CEMA states still derive from the delayed adjustment of the raw materials prices to world market prices.

However, on account of the continuing increase in the price of raw materials, there has been a change in the terms of participation in the development of Soviet raw material deposits. Whereas at the beginning of the 1970's the Soviet Union could still point to continuously increasing development costs in the face of moderately rising foreign trade prices, it can be argued that since 1973/74 investments in the raw materials sector--especially the development of energy raw materials--have become the most profitable. For the world market price of oil is no longer a cost price, but is fixed on the basis of decisions made by a powerful cartel. It has increased tenfold--at least in dollar terms--within a mere 7 years.

By the example of the Orenburg pipeline, it can be demonstrated that the cooperation practiced in CEMA can in addition lead to /negative structural effects/ [words in italics]: The GDR does not belong to the countries specializing in the laying of pipelines.[45] It was necessary first to train specialists for this--presumably non-recurring--project. Thus this direct investment sharing does not by any means accord with the principles of an optimal international division of labor. But it illustrates one of the basic problems of integration in CEMA: Due to the lack of so-called economically grounded rates of exchange, the member states are not in a position to choose and practice the most efficient form of cooperation.

That the GDR is still prepared to enter into such agreements is due to political motives and the lack of alternatives: Imports from the OPEC states would further weigh down the GDR's foreign exchange balance. Moreover, extensive CEMA self-sufficiency is considered desirable for political reasons.

Summary and Conclusions

On account of its lack of raw materials, the limited domestic market and the shortage of manpower, the GDR is forced to cultivate intensive foreign trade relations. For political reasons, these relations focus on the CEMA member states. Thus there arises the question as to whether in the given political framework this--by now 30-year-old--cooperation effectively contributes to the solution of the GDR economy's growth problems or whether growth chances have not been exploited or whether there are actually growth-inhibiting effects. In a review of the GDR's cooperation with the CEMA countries, the positive factors to be listed are the following:

- In principle, the similarity of the economic systems allows the inclusion of foreign trade in the national economic plans, which thereby are provided with a more stable basis.

--The extension of plan coordination in the form of long-term goal-oriented programs leads to the inclusion of foreign trade in the long-term economic planning.

--The size and the developmental level of the CEMA market, and especially of the Soviet market, provide GDR industry with secure outlets; through the sale of large series, it is possible to cut production and marketing costs.

--The intra-bloc availability of almost all industrial raw materials assures the GDR of a basically steady supply of raw materials.

--Even though the price shifts on the world markets caused a deterioration of the GDR's terms of trade, these negative effects have so far been mitigated by the price fixing principles adopted by CEMA.

--Due to the tight network of intra-bloc relations, the GDR economy is to a great extent protected from the cyclical trends of the West.

In addition to these positive influences, there is a number of negative influences:

--The bilateral coordination of the foreign trade plans has an inhibiting effect on the expansion of the commodity exchange. Foreign trade as a growth factor is thus neglected.

--The overall lower developmental level of the GDR's partner states restricts the possibilities concerning labor-saving technology imports. Considering its limited trade relations with the West, one can say that the GDR practices an economically unjustifiable self-limitation.

--The system-related monetary problems prevent the exact cost-benefit calculation of integration measures, i.e. the development of optimal import and export structures. Consequently, the contribution of foreign trade to growth-promoting structural changes of the GDR economy can at best be limited.

--As a result of the reluctance of the CEMA countries to enter into genuine specialization and cooperation agreements (relinquishing production in favor of imports), concentration and rationalization possibilities are not exploited.

--While the joint investments in large-scale projects in the USSR assure the GDR of steady supplies of raw materials, the forms of investment are not in accordance with the principles of an optimal international division of labor. Moreover, they temporarily reduce the social product to be distributed; the low interest rate is no compensation in this respect.

--The assured acceptance of large series on the part of the CEMA states entails not only benefits for the GDR. Viewed in terms of long-term development, this arrangement serves to protect the GDR from international competition, thus reducing the pressure toward innovation and rationalization.

In attempting to draw conclusions from this summary, one can say that the cooperation within the CEMA framework imparts only very modest growth impulses to the GDR economy. There is still a pronounced discrepancy between the optimal and the actual forms of cooperation. The causes of this integration deficit are economic as well as political. In economic terms, it is above all the present structural and developmental differences that should be emphasized. Undoubtedly, these differences have a curbing effect on the drive toward political unification. The restraint in regard to integration efforts is reflected not least in the unsolved monetary problems. So far, the CEMA states have not been willing to consider the necessary relinquishment of sovereignty (in the sense of a relinquishment of the price fixing competency); apparently, they feel that a predominantly nationally oriented economic policy would better protect their interests. At present, there are hardly any indications of imminent changes in this regard.

FOOTNOTES

1. Regarding the method employed, see Herbert Wilkens, "The Latitude Available for Productivity Increases in GDR Industry Until 1975," DIW-VIERTELJAHRESHEFTE ZUR WIRTSCHAFTSFORSCHUNG, No 3, 1972, pp 182 ff.

2. Due to working time reductions, the increase in the rate of employment is not identical with the increase in labor volume. On account of lack of information, it was not possible to calculate this effect. Thus the employment effect shown here is too high.

3. Heinz Vortmann, "Prospective Population and Employment Trends in the GDR Until 1990," DIW-WOCHENBERICHT, No 23, 1976.

4. The overall economic growth rate (W_Y) is the result of the increase in the use of labor (W_A), of the capital expansion (W_K) and of the increase in technological know-how (W_F). Formally, use of a Cobb-Douglas production function results in the following relation: $W_Y = W_A + a(W_K - W_A) + W_F$. In the calculation, the production flexibility of the capital, a (i.e. the percent increase in production as compared with the percent increase in fixed assets) was assumed to be 0.4. The term $a\ (W_K - W_A)$ is called a substitution component; it equals zero, if labor and capital increase at the same rate, i.e. if the capital-labor ratio remains unchanged. However, if the capital component increases more rapidly, relatively more capital is used per worker, which brings

about additional economic growth (due to substitution).

5. To what extent and in what form these factors are affected by domestic economic measures will not be discussed here.

6. As far as the cooperation in CEMA is concerned, this chronological arrangement is used by GDR authors as well; see
G. Kohlmey, ed., "RGW-DDR. 25 Jahre Zusammenarbeit" [CEMA-GDR. Twenty-Five Years of Cooperation], Berlin, 1974, pp 26 ff.
A somewhat different approach is taken by
M. Hegemann, "The Development of Cooperation in CEMA," ZEITSCHRIFT FUER GESCHICHTSWISSENSCHAFT, No 1, 1971, p 6.

7. The only exception was the resolution--adopted at the second Council session (Sofia 1949)--to exchange free of charge scientific-technological documents (Sofia Principle).

8. In charge of the preparatory work was the Permanent Commission for Monetary and Financial Problems which was established in 1962.

9. See Jochen Bethkenhagen and Heinrich Machowski, "Integration im Rat fuer gegenseitige Wirtschaftshilfe" [Integration in the Council for Mutual Economic Assistance], Berlin, 1976, p 29.

10. The first agreement was concluded with Finland in 1973; there followed agreements with the Republic of Iran and with Mexico (1975). Other developing countries--Pakistan and India--have expressed interest in special relations with CEMA.

11. See Deutsches Institut fuer Wirtschaftsforschung [German Institute for Economic Research], "Handbuch DDR-Wirtschaft" [Handbook for the GDR Economy], Reinbek/Hamburg, 1977, p 252; and
Jochen Bethkenhagen and Heinrich Machowski, "Effects of the New Foreign Trade Prices in CEMA," DIW-WOCHENBERICHT, No 17, 1975.

12. The noneconomic objectives include the following: Improvement of defense preparedness and "consolidation of the position of the CEMA member states in the world economy and the eventual attainment of victory in the economic competition with capitalism."

13. See Peter Lorenz, "Multinationale Unternehmen sozialistischer Laender. Die internationalen Wirtschaftsorganisationen im Rat fuer gegenseitige Wirtschaftshilfe" [Multinational Enterprises of Socialist Countries. The International Economic Organizations in the Council for Mutual Economic Assistance], Berlin, 1978.
Heinrich Machowski, "International Economic Organizations of the CEMA Countries. Present Conditions, Problems and Prospects," VIERTELJAHRESHEFTE ZUR WIRTSCHAFTSFORSCHUNG DES DIW, No 2, 1977, pp 109 ff.

Alexander Uschakow, "Integration and Joint Enterprises in CEMA," RECHT IN OST UND WEST, No 2, 1979, pp 49 ff.

14. In the economic literature of the GDR, fusion of the national economies is considered to be the objective of the integration process.

15. Preservation of national sovereignty is one of the basic principles of cooperation in CEMA. This statutory principle has always been reaffirmed: "Socialist economic integration is carried out on the basis of total voluntariness and is not bound up with the establishment of supranational organs ..." (see Complex Program, Paragraph 1).

16. Since the end of the 1950's, a dense network of such bilateral commissions has been in operation in CEMA. In the case of the GDR, the commissions are the following: The Parity Government Commission for Economic and Scientific-Technological Cooperation (USSR), the Joint Committee for Economic and Scientific-Technological Cooperation (Bulgaria, CSSR, Cuba, Mongolia, Poland, Hungary, and Yugoslavia) and the Joint Government Commission for Economic Cooperation (Romania).

17. See Karl Morgenstern, "Concentration Process and Socialist International Division of Labor," DEUTSCHE AUSSENPOLITIK, No 5, 1978, p 42.

18. See in this connection the GDR's reservations--officially presented and embodied in legislation--in regard to specialization agreements. Thus Erich Honecker declared: "Once again, we would like to point to the regulations, according to which no one is entitled to discontinue the production of GDR goods as long as the products to be imported have not been tested in our country, commercial agreements concerning these imports have not been concluded, and regular delivery has not been ensured" (see NEUES DEUTSCHLAND, 18/19 Feb 78). In addition, it should be pointed out that in 1977 the GDR made cooperation and specialization agreements subject to authorization by the Ministry for Foreign Trade (see GDR Gesetzblatt [Legal Gazette], Part I, No 32, 10 Nov 77).

19. See J.F. Kormnow, "Spezialisierung und Kooperation der Produktion der RGW-Laender" [Production Specialization and Cooperation of the CEMA Countries], East Berlin, 1974, p 172.

20. This problem has not yet been satisfactorily solved. Thus the GDR and the USSR agreed--within the framework of their Parity Government Commission--that the management organs of an industrial sector be entitled to settle ad-hoc problems concerning delivery and purchase within the limits of previously established amounts "without losing time on trying to reach agreement on prices and other contractual stipulations; in this respect, it is assumed that such an agreement can be concluded by the foreign trade organizations at a later date, after delivery of the product." An additional obstacle is a regulation, according to

which "the deliveries of the respective ministry of one country must not exceed those of the ministry of the other country by a greater amount than was previously agreed upon, which arrangement totally rules out any undesired effect on the balance of payments." See J. Medwedkow, "Programs of Production Specialization and Cooperation Until 1990 and Some Problems Concerning the Organization of the Foreign Trade of the Socialist Countries," AUSSENHANDEL (USSR), No 2, 1979, pp 35 ff.

21. "The calculation of the effectiveness of integration measures is one of the most important and as yet unsolved problems of cooperation in the field of planning."
See Wolfgang Zschokelt, "Tasks and Possibilities in Regard to the Systematic Utilization of the Rates of Exchange in the Socialist Economic Integration," WIRTSCHAFTSWISSENSCHAFT, No 1, 1977, p 38.

22. See Werner Lamberz, "Ideological Work for the Economy," EINHEIT, No 8, 1975, p 833.

23. Karl Morgenstern, op. cit., p 35.

24. See W. Moissejenko, "Specialization and Cooperation in the Machine Building Industry--an Important Factor in the Development of Trade Among the CEMA Countries," AUSSENHANDEL (USSR), No 2, 1979, p 5.

25. The consolidation of existing export structures is pointed out by Morgenstern as well: "Traditional stable export-import ratios can likewise represent a genuine and effective international specialization ... Some of these have already been regulated by agreements, and further agreements are likely to be concluded in the interest of permanence of the relations."
Karl Morgenstern, "Internationale Spezialisierung und Kooperation im RGW" [International Specialization and Cooperation in CEMA], East Berlin, 1977, p 21.

26. There is (as yet?) no international socialist ownership. "The development potential of the productive forces will remain boundless for a long time. For this reason, the development of international socialist ownership or of supranational control organs is presently not of primary importance."
See Gerhard Froehlich and Willi Kunz, "Socialist Economic Integration--Pledge of Our Successful Development," EINHEIT, No 3, 1979, p 317.

27. See Gerhard Kraft, "Die Zusammenarbeit der Mitgliedslaender des RGW auf dem Gebiet der Investitionen" [The Cooperation of the CEMA Member States in the Investment Field], East Berlin, 1977, p 56.

28. In 1977, the CEMA countries' share of the GDR's foreign trade turnover amounted to 70 percent. See "Statistisches Jahrbuch der Deutschen Demokratischen Republik 1978" [Statistical Yearbook of the German Democratic Republic, 1978], p 321.

29. In 1975, "fuel, mineral raw materials, metals and other industrial raw materials" accounted for 43 percent of GDR imports from CEMA countries.

30. For nonelectrical machines, this share amounts to as much as 90 percent; for electrical machines and equipment, the 1975 intra-bloc export rate amounted to approximately 75 percent, and for transport vehicles, to approximately 80 percent.

31. For the GDR, this factor is especially weighty, for in 1977 GDR capital goods accounted for 63 percent, i.e. the largest share within CEMA, of intra-bloc exports. See W. Moissejenko, op. cit., p 3.

32. Apart from the fact that this is to a large extent resource-related, these considerations, which apparently are oriented toward attaining a great measure of intra-bloc self-sufficiency, are influenced by security-related motives.

33. See "Aussenhandelsjahrbuch der UdSSR" [USSR Foreign Trade Yearbook], 1975, 1977.

34. The following products were included in the calculation: Pit coal, pit coal coke, petroleum and petroleum products, natural gas, rolling mill products, pipes, nonferrous metals, and sawed pine wood.

35. However, the GDR, too, can only very slowly adjust its foreign trade prices to the world market prices. This enables its partners to import goods on relatively favorable terms. On balance, however, due to the disproportionate increase in the prices of raw materials, the benefits derived by the GDR are greater.

36. This consideration should not be disregarded by those in the West who always suspect the GDR to be exploited by the USSR via foreign trade--aside from the fact that it is impossible empirically to substantiate this suspicion.

37. See Peter Mitzscherling et al., "System and Development of the GDR Economy," DIW-SONDERHEFTE, No 98, 1974, p 182.

38. See Wladilen Prokudin, "Intensification and Improvement of the Scientific-Technological Cooperation of the CEMA Countries," RGW-BULLETIN, No 2, 1976. Quoted from: PRESSE DER SOWJETUNION, No 28, 1976, p 18.

39. See NEUES DEUTSCHLAND, 14/15 Jun 75.

40. See W. Moissejenko, op. cit., p 5.

41. See DIE WIRTSCHAFT, No 4, 1977, p 18.

42. See "Handbuch DDR-Wirtschaft," op. cit., p 313.

43. See the resolution adopted at the sixth session of the SED Central Committee, NEUES DEUTSCHLAND, 27 Jun 77.

44. See J. Medwedkow, op. cit., p 32. Medwedkow's argumentation is based on experience gained within the framework of the Parity Government Commission for Economic and Scientific-Technological Cooperation Between the USSR and the GDR.

45. I.e. within CEMA, the USSR, Poland and the CSSR. See Jochen Bethkenhagen, "The Cooperation of the CEMA Countries in the Energy Sector," OSTEUROPA-WIRTSCHAFT, No 2, 1977, pp 69 ff.

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PROBLEMS, PROSPECTS OF CONTINUED EAST-WEST TRADE EXAMINED

East Berlin HORIZONT in German Vol 12 No 47, 48, 1979

['Problems and Analyses' feature article by Prof Dr Max Schmidt: "Cooperation, Trade, Detente: Economic Cooperation as a Factor in the Materialization of Relations of Peaceful Coexistence Between States of Different Social Orders"]

[No 47, signed to press 12 Nov 79 pp 8-9]

[Text] Part I

In our era the entanglement of politics and economics in international relations is quite particularly reflected in the communication between political detente and the deepening of economic relations of countries with different social systems. The sphere of international development does not operate on parallel tracks only or touch just peripherally. In fact we are dealing with a tightly woven network of political and economic interests, goals and strategies which affect each other in all international spheres.

Reciprocal Effects of Detente and Economic Cooperation

The policy of peaceful coexistence has doubtlessly provided strong encouragement to the development of the economic, scientific and cultural cooperation of countries on the basis of full equality and mutual benefit. Economic and scientific-technological relations in turn have already and in many respects helped to promote mutual understanding between countries and peoples. As these relations have become better balanced, multifaceted and more meaningful political relations were materially buttressed.

Many important bilateral treaties and similar documents of the 1970's, most of all though the multilateral acts (such as the final act of the Conference on Security and Cooperation in Europe of 1 August 1975), include in the treaty texts or the relevant declarations of intent provisions for "further developing economic, scientific and technological relations...in the interest of both parties and that of the consolidation of peace."[1] Ever since we have seen new opportunities arise for mutually beneficial economic and scientific-technological cooperation, especially in the field of industrial cooperation. Emerged at the same time have certain practical steps toward the realization of these opportunities.[2] At the present time we note the expansion of the economic factors of peaceful coexistence by countries with different social orders as well as of world economic relations. The internationalization of economic life is achieving new dimensions in the conditions of the scientific-technological revolution.

Internationalization of Economic Life--An Objective Process

In the years following World War II the process of the internationalization of economic life advanced primarily among countries with the same socioeconomic structure. Now it also and strongly affects relations between states with different socio-economic systems. The development of economic and scientific-technological relations in the world economy as a whole, that is in the complex nexus joining socialist, capitalist and developing countries, tends to emerge with increasing emphasis. The growing interest of capitalist circles and countries in business relations with socialist states is rooted both in the growing economic potential of socialism and the corresponding opportunities for the international exchange of goods and in the more acute crises, the raw material, energy and monetary problems and the deepening internal contradictions of the capitalist world. Moreover it is more and more noticeable that the current stage of the development of productive forces and scientific-technological progress involves problems and tasks which can no longer be effectively dealt with on a national level (space research, environmental control, utilization of the resources of the seas, the fight against hunger and disease). They call for the coordination of efforts and the cooperation of countries independent of social orders.

The conception of peaceful coexistence pursued by the socialist countries has always implied that broad and varied economic relations between them and the capitalist countries are desirable and useful in the interest of both parties. Even in the era of the Cold War from 1946/1947 to about the mid-1960's the USSR and the (then) young peoples democracies of Europe tried for economic exchanges with the capitalist countries. Still, for some time the ruling forces in the West managed to hold economic relations with the "East" well below the potential. They used a "hard" policy of embargoes and many other types of discrimination in order to achieve by economic means also the planned "roll back" of socialist conditions in the countries of Eastern Europe and in the USSR. This purpose was served by the actions of U.S.foreign policy such as the cessation of deliveries to the Soviet Union within the scope of the Lend-Lease Agreement, the sabotage of reparations from what were then the Western zones of Germany, the refusal of loans and later the law enacted by the U.S.Congress on the ban of exports of allegedly "strategic goods" to the USSR and other socialist countries as well as restrictions on exports of all other types of merchandise to these states.

Pressured by the ruling circles in the United States other capitalist countries adopted a similar approach. This contradicted the objective developmental trends of the world economy and injured both sides from the economic aspect. At the same time the economic blockade of socialism proved to be rather ineffective. Despite the nearly total interruption of these foreign trade relations the socialist countries managed successfully to reconstruct their economies. Supported by reciprocal cooperation and the use of the advantages of the socialist system the socialist countries were able substantially to improve their status in the economic competition between the two systems.

Despite the current complexity on the international scene the pursuit of political detente remains a basic trend in the relations of socialist and capitalist nations. The socialist countries continue their efforts to make detente irreversible. Politically influential forces in capitalist states profess the same ambition. Given general good will progress may well be achieved, especially by way of the implementation of the provisions of the Conference on Security and Cooperation in Europe and also by the more intensive realization of the principles of peaceful coexistence in the relations between the USSR and the United States of America. Any steps taken toward military detente are obviously paramount. In such a process the continuing competition between socialism and capitalism will be defined even more clearly in the spheres of economics and economic relations, and the importance of this sphere will increase objectively. Our experiences certainly justify our talking of the primacy of politics and the political climate for international economic cooperation, especially among countries with different social systems. That again fully includes the beneficial effect of lasting economic ties on the stability of political relations.

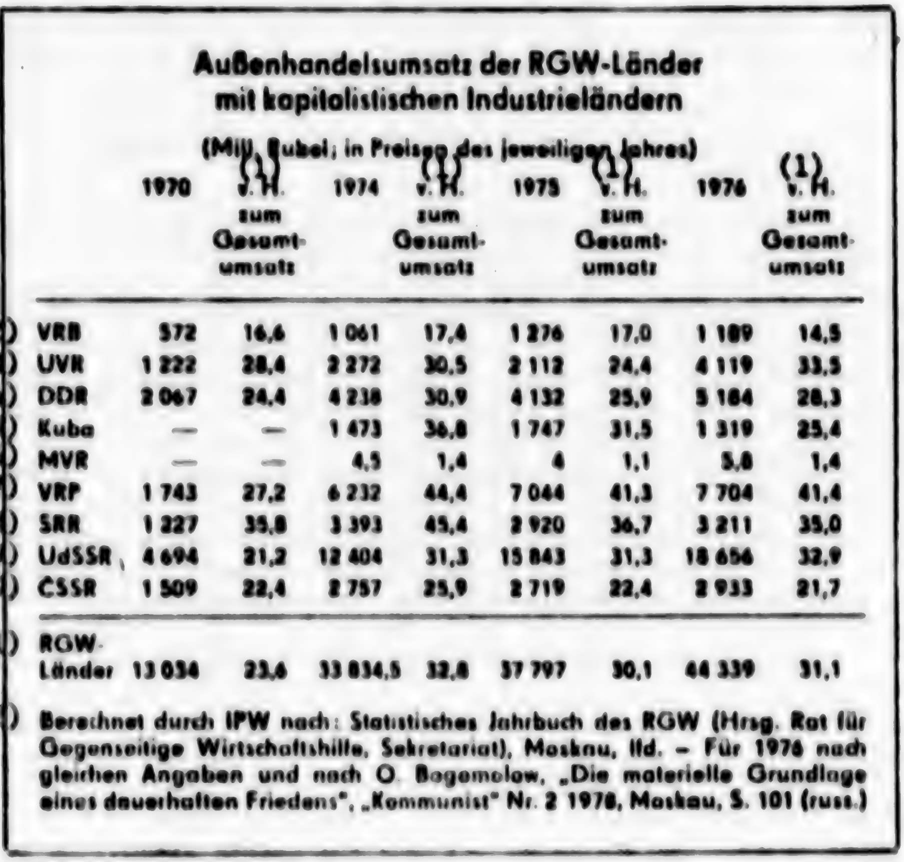
Expansion of Economic Relations

Nowadays economic relations between socialist countries and capitalist industrial states evolving in the conditions of political detente are characterized by some specific features. One factor is the provision in the final act of Helsinki that "trade represents a significant sphere of cooperation" and that the "participants are resolved to encourage the expansion of their reciprocal goods and services traffic and (guarantee) favorable conditions" therefore. In this meaning the rise in the goods turnover between the CEMA member states and the capitalist industrial countries must be emphasized (see table).

This growth by a factor of 3.4 is substantially greater than the growth of total world trade. It is all the more remarkable as capitalist world trade has stagnated or declined for quite some time past. Despite some difficulties this positive trend continued through 1978.

Economic conditions in the socialist countries have shown a strong development toward the improvement of the structure of trade. The machine construction industry has become the core of the CEMA countries economic integration, thereby providing good opportunities for economic relations with third countries. In view of the persisting energy and raw material supply problems in the capitalist countries their imports of raw materials and fuels from socialist countries continue to enjoy a great deal of importance.

Table--Foreign Trade Turnover of the CEMA States With Capitalist Industrial Countries (million rubles; at prices in the respective year)



Außenhandelsumsatz der RGW-Länder mit kapitalistischen Industrieländern

(Mill. Rubel; in Preisen des jeweiligen Jahres)

	1970	(1) v. H. zum Gesamtumsatz	1974	(1) v. H. zum Gesamtumsatz	1975	(1) v. H. zum Gesamtumsatz	1976	(1) v. H. zum Gesamtumsatz
(2) VRB	572	16,6	1 061	17,4	1 276	17,0	1 189	14,5
(3) UVR	1 222	28,4	2 272	30,5	2 112	24,4	4 119	33,5
(4) DDR	2 067	24,4	4 238	30,9	4 132	25,9	5 184	28,3
(5) Kuba	—	—	1 473	36,8	1 747	31,5	1 319	25,4
(6) MVR	—	—	4,5	1,4	4	1,1	5,8	1,4
(7) VRP	1 743	27,2	6 232	44,4	7 044	41,3	7 704	41,4
(8) SRR	1 227	35,8	3 393	45,4	2 920	36,7	3 211	35,0
(9) UdSSR	4 694	21,2	12 404	31,3	15 843	31,3	18 656	32,9
(10) ČSSR	1 509	22,4	2 757	25,9	2 719	22,4	2 933	21,7
(11) RGW-Länder	13 034	23,6	33 834,5	32,8	37 797	30,1	44 339	31,1

(12) Berechnet durch IPW nach: Statistisches Jahrbuch des RGW (Hrsg. Rat für Gegenseitige Wirtschaftshilfe, Sekretariat), Moskau, lfd. – Für 1976 nach gleichen Angaben und nach O. Bogomolow, „Die materielle Grundlage eines dauerhaften Friedens", „Kommunist" Nr. 2 1978, Moskau, S. 101 (russ.)

Key:

1. Percentage of total turnover
2. People's Republic of Bulgaria
3. Hungarian People's Republic
4. GDR
5. Cuba
6. Mongolian People's Republic
7. People's Republic of Poland
8. Socialist Republic of Romania
9. USSR
10. Czechoslovakia
11. CEMA countries
12. IPW calculation based on "Statistisches Jahrbuch der RGW" [CEMA Statistical Yearbook), issued annually by the secretariat of the Council for Economic Mutual Aid in Moscow.-- For 1976 based on the same data and on O. Bogomolov, "The Material Base of a Lasting Peace" KOMMUNIST No 2/1978, Moscow, p 101 (in Russian).

Long-Term Agreements and Giant Plants

New types of cooperation have gained ground on the basis of long-term agreements. They are mainly product-related cooperation, compensation, licensing and scientific-technological cooperation in third countries. In the ECE region the incidence of cooperation agreements has risen from 200 in 1970 to about 1,500 now. The indices of the scientific-technological potential created in the CEMA states are not inferior to those of Western countries. In the European CEMA states, for example, 70,000 inventions are recorded every year. Here also we have satisfactory conditions for exchange.

At the present time large dimensional projects have begun to characterize cooperation between socialist and capitalist countries. In part they include plant values of hundreds of millions and even in excess of $1 billion. In late 1978 there were some 100 compensation agreements of this type. The USSR is involved in more than 60. At the same time multilateral trends have increased--projects joining several countries and also developing nations.

These and other commercial contracts are based on long-term government agreements. More and more frequently treaties have a term of 5-10 years, some even 20 and more. Signposts of this trend were the long-range skeleton agreements concluded in 1978 between the USSR and the FRG and France respectively. Of similar significance are the various treaties concluded with Finland by CEMA and its member countries. In effect currently are 94 long-term agreements on economic cooperation between socialist and capitalist countries. Consequently an active and diverse mechanism of economic collaboration is developing. This affects, among others, the expansion of the scope of government commissions for economic, industrial and scientific-technological cooperation. The exchange of economic and business data is developing. Chambers of Commerce are organizing trade shows and fairs, days of business, science and technology, symposiums, and so on. In 1960 420 trade fairs and international industrial shows were held in Europe; in 1977 they exceeded 1,000.

The economic, political and social development in the countries of the socialist community of nations continues a significant factor for the stability of international relations. The dynamism of the CEMA states foreign trade relations with the capitalist industrial countries is based on the stable and planned growth of their economies within the scope of their socialist economic integration. Their material resources double every 15 years or thereabouts, and their attraction for capitalist industrial countries is growing accordingly. They are, for example, carrying out long-term target programs with a volume of 880 billion in the energy, fuel and raw material sectors, in machine construction as well as well as schemes to guarantee a high rate of output of modern equipment, farming and the consumer goods industry. Such extensive economic and also social tasks have arisen for the first time in CEMA practice. They also offer a clearly foreseeable and secure prospect for the further expansion of economic cooperation with countries of the capitalist economic system. The foreign trade policy of the

CEMA member states are increasingly and lastingly oriented to the use of the potential and opportunities offered by extensive international cooperation. It does not have an accidental or primarily pragmatic nature but is indeed intended to persist in the long term.

Obstacles to Detente and Economic Cooperation

Despite the favorable trend in economic relations the potential is by no means exhausted. This is reflected, for example, in the slow-down in the annual growth of East-West trade in the period 1975-1977 compared to its growth in the first half of the 1970's.

The deterioration in the political situation resulting from the actions of enemies of detente in the United States and some other NATO countries hampers economic cooperation though only in part and temporarily. Some forces in important capitalist countries are trying to misuse the economic sphere for political blackmail and interference in the internal affairs of the USSR and its socialist allies. To be mentioned are efforts in the United States to revive or even expand embargoes from the Cold War era, impose delivery bans, and so on. Here also, albeit in a negative meaning, we see confirmation of the primacy of politics. Since 1976, for example, the USSR's trade with capitalist countries has risen substantially, but trade with the United States has declined by nearly a third. The main reason was discriminatory U.S.trade legislation.

Advocates of the political misuse of economic relations short-sightedly misunderstand their own economic situation, conspicuously injure the social interests of many working people in their countries and dangerously misinterpret the actual international balance of power. They expect thereby to hinder the further advance of socialism, seriously disrupt its economic dynamism and make harder the achievement of its social goals. It is well known that such efforts meet resistance even from leading U.S. businessmen and politicians, because they have been recognized ineffective. A U.S.businessman stressed: "The U.S.business world is increasingly interested in the development of mutually advantageous cooperation in trade and business with the Soviet Union. We, the representatives of U.S.business, have been much impressed by our factual and constructive meeting with L.I. Brezhnev (he means the meeting of 27 September 1978--the author), who again emphasized that the Soviet Union tirelessly champions the development of good and mutually advantageous relations with the United States and the abolition of obstructions present in the field of trade."[3]

Import Stops, Quantitative Restrictions, Labor Handicaps

So far the capitalist countries and their governments have made few efforts to respond to that main provision in the second part of the final act of Helsinki, "to reduce and gradually remove any obstacles in the path of the development of trade" or to guarantee "favorable conditions for such a development of the traffic in goods and services." Also lacking in most cases has been the realization of the statement included in that document on the favorable effects "which might arise from the use of most favored nation treatment for the development of trade."[4] This behavior again is largely due to political considerations.

Many capitalist countries have in fact not adopted liberalization measures vis-a-vis their trading partners among the CEMA member states. This applies to customs duties, import quotas as quantitative restrictions, EEC farm market regulations, credit procedures and many other instances. In some cases conditions actually got tougher. New obstacles were created for goods of socialist provenance such as that by the EEC with respect to steel products --tantamount to a complete ban on imports--, but also to textile, farm and in part chemical products. Delays or restrictions with regard to residence or labor permits also continue in EEC countries for staffs of industrial and foreign trade enterprises of various CEMA states. The United States went even further. In July 1978 the Senate decided to ban visas for "communists, Marxists and persons who are linked to groups of similar convictions." Other import handicaps are "technical obstacles to trade" such as economically unjustified technical norms, standards, packaging instructions and time wasting test procedures.

Another obstacle, finally, is the allegation that the loan potential has been exhausted. After all, long-term loans are the normal method (generally customary in international practice) for developing or safeguarding export markets. In 1977 already the FINANCIAL TIMES noted that the leading banks continued to grant loans to their CEMA partners. The reason: They are not liable to political uncertainty and leadership crises, enjoy economic stability and promise good prospects for their five-year plans.[5]

FOOTNOTES

1. Declarations of intent, agreed in connection with the signature of the treaty between the USSR and the FRG of 12 August 1970; in "For Detente and Lasting Peace," "Europa-Dokumente" [European Documents], Berlin 1977, p 16.

2. See "Declaration by the Warsaw Pact Member Countries, Adopted at the Meeting of the Political Advisory Committee on 23 November 1978 in Moscow," NEUES DEUTSCHLAND, 24 November 1978.

3. William Verity, chairman, American-Soviet Trade and Economic Council, speech to the International Chamber of Commerce in Orlando/Florida, October 1978, BIKI/Moscow, 12 October 1978.

4. Final Act of the Conference on Security and Cooperation in Europe, in "For Detente and Lasting Peace," "European Documents," Berlin 1977, pp 145 ff.

5. FINANCIAL TIMES, London, 27 September 1977.

[No 48, signed to press 19 Nov 79 pp 8-9]

[Text] Part II

Although up to now bilateral economic relations predominated, we do note a trend indicating an increase in multilateral relations. This could result in a significantly greater density of this material "fabric" for the consolidation of detente and thereby substantially raise the importance of economic relations as one level of peaceful coexistence.

Multilateral Economic Relations

This holds true quite particularly for Europe. As regards the stage of development of the productive forces and the technical-economic standard of its economies this Continent is one of the most advanced regions in the world. Produced here is the major part of world industrial output. The annual growth rates of industrial production tend to be greater here than in other regions. Also in the top range are the investments undertaken in the two parts of Europe. The CEMA region represents the most dynamic economic region on earth. Europe has the most advanced communications and infrastructure as well as the potential for reciprocally complementing raw material sources, scientific-technological capacities and industrial structures.

On the other hand, usually for historical reasons, excessive parallel and therefore underdeveloped production complexes still persist in Europe. Much damage was also done by the disruption of many traditional internal European economic relations in the era of the Cold War.

In future, therefore, it will be possible for types of multilateral cooperation to contribute a great deal to the resolution of problems which are important for the Continent of Europe. Up to now the European countries have had little experience in the execution of multilateral projects. Here serious efforts will be necessary, and these will challenge both sides. The two major integration units, CEMA and the EEC, have a great responsibility with respect to the initiation of multilateral operations. The lack of long-term relations between them is an evident anomaly. The larger dimensions of economic cooperation mentioned in the final act of Helsinki require systematic and effective relations between CEMA and the EEC. We must consider here that, on the one hand, integration is advancing within the two economic groupings but that, on the other, the coexistence of different types of integration need not be an obstacle to the development of relations and economic cooperation between CEMA and the EEC and their member nations.

These considerations are germane to the proposals by the Council for Economic Mutual Aid. The following principles are particularly important for the normalization of these relations:

-- The recognition and use of general principles of cooperation between socialist and capitalist countries as well as between CEMA and the EEC on the basis of the principles of the final act of Helsinki;

-- The reduction and ultimate abolition of discriminations; use of the principle of most favored nation treatment as well as the implementation of a customs and trade policy corresponding to the principles of European cooperation;

-- The modification of trade procedures in both groupings, including the establishment of a system of preferences;

-- Measures for the expansion and stimulation of industrial, financial and scientific-technological cooperation;

-- The use of practical opportunities for common efforts in the settlement of all-European problems in the field of energy, extractive industry, transportation and telecommunications, scientific research and environmental control, including projects of all-European cooperation.

One of the most important steps toward cooperation would be for both sides, by means of complete most favored nation treatment, to initiate all measures required to assist the expansion of trade between their member countries on the basis of nondiscrimination and mutual profit as well as jointly settle other problems in economic relations. This would apply, for example, to trade in farm products, which should not be subject to any unilateral artificial restrictions, standardization, statistics, economic forecasts in the fields of production and consumption as well as the exchange of information.

All-European Congresses

At the Belgrade successor conference to the Conference on Security and Cooperation in Europe the USSR and the other socialist countries proposed all-European congresses or international conferences on environmental control, the development of transportation and energy. These would represent definite steps toward multilateral economic cooperation.

In the matter of energy much general benefit would accrue from the coordination or unification of electric energy and gas line systems on the European Continent, the establishment of new international systems for the transport of fuels, the common development of major fuel and energy complexes, the development of new energy sources and joint research in this field as well as measures for energy conservation. At the same time all this would benefit detente.

As regards environmental control we would be concerned to prevent the transcontinental progress of air pollution, encourage common action to protect the the seas and rivers, the preparation of special measures to combat the damaging consequences of the extensive use of chemical fertilizers and joint research for the development of waste-free production technologies. To be tackled in this field would be, for example, common projects for the removal of border crossing air pollution, the protection of the oceanic environment around Europe and in the North Atlantic, for waste-free and low-waste technologies in certain industries, theuse of chemical fertilizers, herbicides and pesticides in agriculture.

In the matter of transportation we must be concerned with the future of all-European traffic, especially railroads, motorways and waterways, the initiation of an all-European network of navigable rivers and the development of rapid transit systems with a high degree of traffic flow. A congress might well prepare certain projects for cooperation, especially in regard to the improvement of main European links in road, rail, shipping and combined traffic (including the simplification and speed-up of transit traffic), and adopt all-European conventions on transportation.

In accordance with the Helsinki final act other target programs may also emerge, which could determine the main features of economic cooperation in Europe for decades to come. This long-term approach responds both to the economic and the political interests of all those involved.

Trilateral Economic Cooperation

Trilateral economic cooperation is another very promising field for economic collaboration with far reaching and world political aspects. This new field in the general process of the international division of labor has been developing since the early 1970's. Currently it does not loom very large in economic relations between partners of the socialist and the capitalist world economic systems. It does, though, have a tremendous expansion potential. Trilateral economic cooperation enables us especially to use the economic and scientific-technological experiences of socialist states and capitalist industrial countries in the effort to achieve social advances in the developing countries.

The first feature to be noted here is the fact that agreements at government level are decisive. In developing countries the government usually handles all major projects involving international cooperation. Between socialist states and capitalist industrial countries also such cooperation is usually regulated by agreements concluded between governments. Most government agreements on economic cooperation between CEMA member states and capitalist industrial countries nowadays include provisions regarding cooperation on third markets.

A second feature is the close involvement of bilateral and multilateral cooperation. Multilateral economic cooperation is always subdivided into many bilateral agreements. Satisfactory experiences in deepened bilateral economic cooperation with developing countries had the result that it was possible to initiate larger-scale joint enterprises in third countries. From the standpoint of the CEMA member states this applies to relations with partners from capitalist industrial countries as well as to investment projects in developing countries. The gradual advance to more complex projects is linked with some novel challenges which arise for all those involved with regard to the dimension of such projects, the procedures and technologies to be employed, the type of actual cooperation up to and including the lay-out of the treaties. In this way economic relations with developing countries are deepened while economic relations between socialist states and capitalist industrial nations are intensified. This field of economic relations also provides a contribution to the democratic transformation of the international economic system.

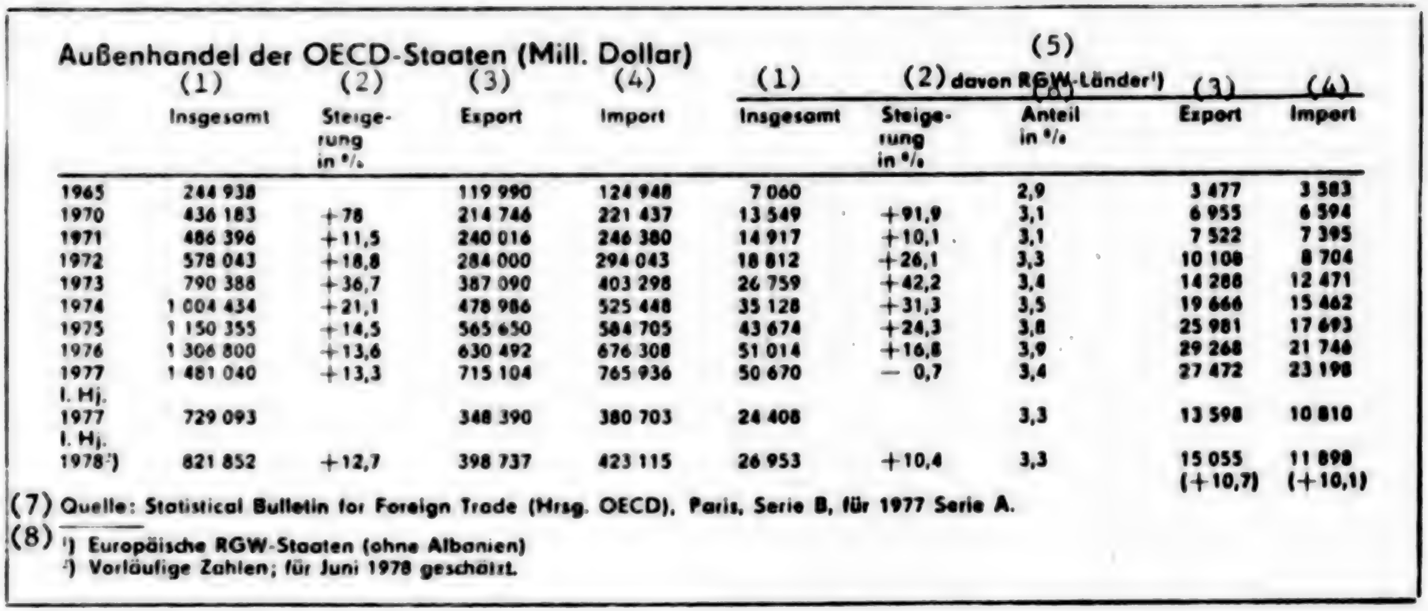
A third feature is the necessary compatibility in the cooperation of the partners. It is necessary for all partners involved carefully to analyze the experiences won in this new developing type of intensive economic cooperation so that all the potential of cooperation may be utilized on the basis of the respective economic system. In socialist countries this type of international cooperation is encouraged by the use of the state foreign trade monopolies. In capitalist industrial countries also supportive measures were initiated, though the obstacles to trade described in part I cause serious damage to trilateral cooperation also.

The useful effects are unmistakeable for all those involved--as long as nothing counteracts the reciprocal benefit. When it comes to trilateral industrial cooperation the mere junction of the economic-technological potentials of the participating countries or firms in the implementation of such major projects as are often involved in developing countries for the development and processing of raw materials or the construction of complete industrial plants has economic and social effects which no other type of cooperation could possible yield in these dimensions. Usually the technical-scientific capacities supplied by the partners result in much greater economic benefits for all those involved than is the case in merely bilateral types of cooperation.

However this does not only depend on the respective situation but also on the climate of political relations. However close cooperation may be, it requires a great deal of political stability in the relations between the participating countries--and not only between these. That is why the further deepening of political detente is an indispensable prerequisite for the extensive development of this extremely promising field of cooperation; its development in turn may have beneficial effects on the stability of political relations. Beneficial results are to be expected if detente in Europe advances and continues to expand worldwide, while internationalization of the world economy progresses, especially as a consequence of impulses arising from the scientific-technological revolution. At the Conference on Security and Cooperation in Europe the participating countries noted that they wanted "to develop cooperation with all countries (in other words with developing countries also--the author) in all areas according to the targets and principles of the United Nations Charter," that they "consider particularly important the sectors specified in the scope of the conference," and that, at the same time, "each one of them may make his contribution on completely equal terms." They will "take into account the interests of all, especially the interests of developing countries the world over, to reduce the differences in the level of economic development."

Given the good will of all the parties involved, trilateral economic cooperation therefore has excellent prospects. In future also it will be necessary to abstain from any attempt to misuse economic relations for the exercise of political and economic pressure on socialist and developing countries or apply discriminatory measures of various kinds.

Table 2--Foreign Trade of the OECD Countries (million dollars)



Außenhandel der OECD-Staaten (Mill. Dollar)

	(1) Insgesamt	(2) Steigerung in %	(3) Export	(4) Import	(5) davon RGW-Länder¹) (1) Insgesamt	(2) Steigerung in %	(6) Anteil in %	(3) Export	(4) Import
1965	244 938		119 990	124 948	7 060		2,9	3 477	3 583
1970	436 183	+78	214 746	221 437	13 549	+91,9	3,1	6 955	6 594
1971	486 396	+11,5	240 016	246 380	14 917	+10,1	3,1	7 522	7 395
1972	578 043	+18,8	284 000	294 043	18 812	+26,1	3,3	10 108	8 704
1973	790 388	+36,7	387 090	403 298	26 759	+42,2	3,4	14 288	12 471
1974	1 004 434	+21,1	478 986	525 448	35 128	+31,3	3,5	19 666	15 462
1975	1 150 355	+14,5	565 650	584 705	43 674	+24,3	3,8	25 981	17 693
1976	1 306 800	+13,6	630 492	676 308	51 014	+16,8	3,9	29 268	21 746
1977	1 481 040	+13,3	715 104	765 936	50 670	— 0,7	3,4	27 472	23 198
I. Hj. 1977	729 093		348 390	380 703	24 408		3,3	13 598	10 810
I. Hj. 1978²)	821 852	+12,7	398 737	423 115	26 953	+10,4	3,3	15 055 (+10,7)	11 898 (+10,1)

(7) Quelle: Statistical Bulletin for Foreign Trade (Hrsg. OECD), Paris, Serie B, für 1977 Serie A.

(8)

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¹) Europäische RGW-Staaten (ohne Albanien)

²) Vorläufige Zahlen; für Juni 1978 geschätzt.

Key:
1. Total
2. Percentage increase
3. Exports
4. Imports
5. CEMA countries
6. Percentage share
7. Source: STATISTICAL BULLETIN FOR FOREIGN TRADE (issued by OECD), Paris, Series B, for 1977 Series A.
8. Footnotes: 1) European CEMA countries (excluding Albania).-- 2) Preliminary figures; estimate for June 1978.

Outlook

The policies of the socialist countries continue to be directed to "raising the efforts to strengthen peace, guarantee security, develop detente and expand international cooperation."[2] It is our concern to prevent a return to the Cold War and make irreversible the results achieved in detente. Foreign trade is fully integrated in this basic line. In other words, the socialist countries orient to the further--quantitative though primarily qualitative--consolidation and expansion of their economic and scientific-technological relations with the capitalist industrial countries.

This is due mainly to the two related motives: In the course of political detente the volume, content and procedures of economic cooperation will continue substantially to expand and improve. This is well understood to be in the interest of both sides. On the other hand economic relations for their part continue to exert strong detente promoting effects. Given good will and a constructive approach by all interested parties we may expect considerable opportunities to arise. After all, despite all the difficulties mentioned the outlook for the future is bound more strongly to affect our attitudes.

Long-term agreements between socialist and capitalist countries provide greater stability and broader dimensions to international relations in Europe. Outstanding examples in this respect are the joint declaration and long-term skeleton agreement on economic and scientific-technological relations between the USSR and the FRG of May 1978. Here it is stated and practiced that there is "no reasonable alternative to the peaceful cooperation of countries despite the differences in regard to several fundamental propositions and despite different political and social systems," and that, on this basis, it is imperative "to raise the quality and the standard of their relations in all fields."[3]

Multilateral economic cooperation offers new prospects not only for Europe. It could be developed into an important factor conducive to "the transformation of international economic relations on a juster and more democratic basis and the creation of a new international economic order which will guarantee the speedy abolition of economic backwardness in the developing countries and the dynamic advance of all peoples, of mankind as a whole."[4]

It is indispensable, of course, to take into account the nature of economic relations between socialist states and capitalist industrial countries as links between states with different social conditions. The respective paragraph in the final act of the Conference on Security and Cooperation in Europe did so to the fullest extent. It says there that the participating nations wish to develop cooperation in the sectors of the economy, science and technology as well as the environment, "conscious of the differences in their economic and social systems" and "stressing their wish to strengthen such cooperation among themselves, regardless of their systems."[5]

This is incompatible with any attempt at interference in the internal affairs of the other. It calls for the strict observance of the laws, the norms and customs of the partner; the application of the principle of mutual benefit in international trade and cooperation relations; the nonadmission of discrimination and other trade obstacles; the renunciation of the establishment of new protectionist barriers.

In future also the socialist countries will make every effort fully to implement the provisions of the final act of Helsinki. That is an important contribution to the preparation of the Madrid Conference in 1980. The principal question here is the support of the results achieved in political detente by definite advances in other fields. The development of international cooperation in trade and industry as well as science and technology represents one of the main trends for the consolidation of peace and cooperation. It can and shall provide the real stuff of detente and strengthen the confidence in each other of countries with different social and economic systems. The peoples of the 35 countries of Europe and North America will judge the realization of the Helsinki final act by the criterion of greater security for detente, the provision of new jobs, technical innovations easing life and work, and a better quality of the environment. It is therefore appropriate to the spirit of the age for countries to cooperate with increasing intensity.

FOOTNOTES

1. Final Act of the Conference on Security and Cooperation in Europe, "Fuer Entspannung und Dauerhaften Frieden in Europa--Dokumente" [For Detente and Lasting Peace in Europe--Documents], Berlin 1977, pp 145 ff.

2. See "Declaration of the Warsaw Pact Member Countries, Adopted at the Meeting of the Political Advisory Committee on 23 November 1978 in Moscow," NEUES DEUTSCHLAND, 24 November 1978.

3. BULLETIN DER BUNDESREGIERUNG, Bonn, No 47/1978.

4. "Declaration..." as before (note 2).

5. Final Act..., as before (note 1).

11698
CSO: 2300

INTERNATIONAL AFFAIRS

SOVIET-CSSR TRADE IN 1980 VIEWED

Brno ROVNOST in Czech 19 Dec 79 p 2

[Text] Economic relations between the Soviet Union and Czechoslovakia are undergoing a dynamic development. A trade exchange agreement between the two countries signed a few days ago attests to that. According to the agreement, the mutual trade in the last year of the five-year plan is to attain 7 billion rubles.

In comparison with 1979, the growth in the exchange of goods is to exceed 6 percent. Each percent of growth expressed in monetary terms has a greater significance each passing year. Now it stands at 70 million rubles.

Czechoslovakia is in the forefront of mutual trade with the Soviet Union with one-third of the CSSR foreign trade going there.

The Soviet Union is one of the largest suppliers of the most modern technology to Czechoslovakia; nuclear power station equipment, agricultural and road construction machinery, mining equipment and transportation. A significant part of the Soviet exports to CSSR are raw materials and substances because Czechoslovakia is a country with highly developed processing industry but with limited raw material resources. Soviet supplies of oil, natural gas, iron ore, nonmetallic ores and cotton are of considerable significance.

That is why CSSR is actively participating in construction of various mining industry projects on the territory of the Soviet Union. It financed, for example, the construction of a 554-kilometer long section of the long distance SOJUZ gasoline and compressor stations of electric power lines from the Ukrainian town of Vinitsa to the Hungarian town of Albertirsa as well as a number of other projects.

In return for this participation, Czechoslovakia will receive an extra 1.6 billion cubic meters of natural gas, over 6,000 tons of ferromanganese and 750,000 tons of iron pellets and concentrates, several hundred million kilowatts of electric energy and 2 million tons of oil. Prices of these raw materials for t[illegible]s countries are established by the Soviet Union usually below the world price levels.

Machinery and equipment have a significant place in Soviet imports from CSSR. Tens of enterprises in the USSR have been equipped with Czechoslovak machinery. In the year 1980, CSSR will deliver to USSR tens of thousands of JAWA motorcycles, thousands of TATRA trucks, pneumatic weaving mills, hundreds of diesel-electric locomotives, streetcars, trolley cars and textile machinery. There is also a great demand for Czechoslovak consumer goods, which will be exported to the USSR in 1980 in considerable quantities.

CSO: 2400

CZECHOSLOVAKIA

ABUNDANT NOVEMBER PRECIPITATION ENDS SLOVAK DROUGHT

Bratislava ROLNICKE NOVINY in Slovak 11 Dec 79 p 2

[Article by Dr Peter Forgac: "A Warm Start in December. Into Winter with Sufficient Supply of Moisture"]

[Text] November this year was liberal with precipitation, after an extremely dry first half of the fall.

The amount of precipitation varied both locally and regionally, but was above normal in all areas. Roznava received the most rain of the lowlands, 178 millimeters (323 percent of the monthly average), and Malacky received 137 millimeters (268 percent of the monthly norm).

The precipitation which fell last month helped the winter grain crop. We are entering the upcoming winter season with a sufficient supply of grand moisture. In this regard the situation is much more favorable than a year ago, when November was, on the whole, dry in Slovakia, with precipitation levels well below normal. We shall present a few figures for comparison. The total precipitation in November, 1978 was 12 millimeters in Bratislava, 16 in Hurbanov, 30 in Kosice, 24 in Lucenec, 20 in Nitra and 14 in Poprad.

This year November was quite moderate in our region from a temperature standpoint, without heavy nighttime frosts. There were more nights when the temperature remained above 0° C than when it dipped below 0°, which also favorably affected the winter corn.

The extraordinarily warm weather in the first ten days of December had a significant influence on the improvement of winter corn stands. Instead of the cool days, occasional snow and heavy nighttime frosts which characterize the normal weather conditions at this time of the year, the maximum daily temperatures in the lowlands of Slovakia reached, for the most part, 9-14° C. Only in the East Slovak region, where there was more cloudy and foggy weather, did daily temperatures reach 3-10° C. But these temperatures too were well above the average for December.

Shortly before noon on Saturday, during the passing of a light cloud cover, a temperature as high as 15° C was measured in Bratislava. This was more than the 125 year record for the maximum daily temperature. The mercury in thermometers had not risen so high in Bratislava on 8 December since at least the middle of the last century, when systematic weather records began to be kept in our city. The existing record for the high temperature in Bratislava on 8 December was 13.2° C and was recorded in 1944. Last year at this time in Slovakia the weather was cold, with below zero temperatures throughout the day, even in the lowlands, due to the invasion of an arctic air mass. Nighttime temperatures fell on 7 December to -10° to -16° C and to -20° to -24° C in places in the mountain valleys.

The contradictions between the weather and the calendar which occur from time to time in our area are connected to the open space circulation of the atmosphere, which displays irregular fluctuations in moderate geographic lattitudes. Air currents carry warm and cold air from one region to another both in latitudinal and longitudinal directions. Therefore not only cold, arctic air, but also at times warm air reaches our region during the cooler seasons, causing a sharp change in the weather and an increase in daytime and nighttime temperatures to levels above the long-term average.

A similar instance occurred at the beginning of this month. Between the moderate latitudes of the Atlantic Ocean and the Central European interior was created a significant westerly air flow which began to bring warm, ocean air as far as the Carpathian region. Its influence appeared not only in the lowlands but also in the mountains, and particularly at middle altitudes. Therefore there is a snow cover only in the higher mountain areas, from about 1,000-1,500 meters above sea level. It was announced at the end of last week that Chopok had 49 and Lomnicky Stit 113 centimeters of snow. The westerly air flow, in which additional waves of damp, yet still quite warm sea air, accompanied by occasional precipitation, moved from the moderate latitudes of the Atlantic Ocean to the Central European interior, also continued through the beginning of this week. A change to significantly cooler weather is expected in mid-December.

9116
CSO: 2400

CENTRALIZED ENERGY SUPPLIES IN CSR DISCUSSED

Prague HOSPODARSKE NOVINY in Czech 7 Dec 79 pp 8-9

[Article by Miroslav Kubin, General Director of the Czech Energy Enterprises: "A Systemic Approach at Last"]

[Text] In its resolution No 130/79, the CSSR Government approved principles of long-range energy policy on the build-up and operation of the sector which supplies the national economy and population with heat.

The level of management in this area is influenced to a considerable degree by the fact that, while the processes of extraction, production, and transport of fuels and energy in solid fuels, thermal energy, heating gas, electricity and liquid fuels, are planned and monitored in appropriate depth, this is not the case in the area of fuels and energy use. The common features and interrelationships of these two systems, along with optimum selection of energy carriers, offers a prerequisite for improvement in the management of the energy sector as a whole. The current situation urgently needs an overall revision and modernization of directives and legislative or other measures, with the aim of influencing more strongly conceptual management, the problems of source integration in vestment construction, the operation and maintenance of both the thermal sources and the primary and secondary networks, as well as monitoring the availability and use of thermal energy. While government resolutions (Nos 80/57, 1088/60, 19/67, etc), but especially directive No 38/1963 Sb, prevented impulsiveness in the technical and economic approach to the problem of closely-targeted thermal energy policy, these directives did not represent a unified legal norm. It is only government resolution No 130/79 which marks the beginning of a systemic approach in this direction.

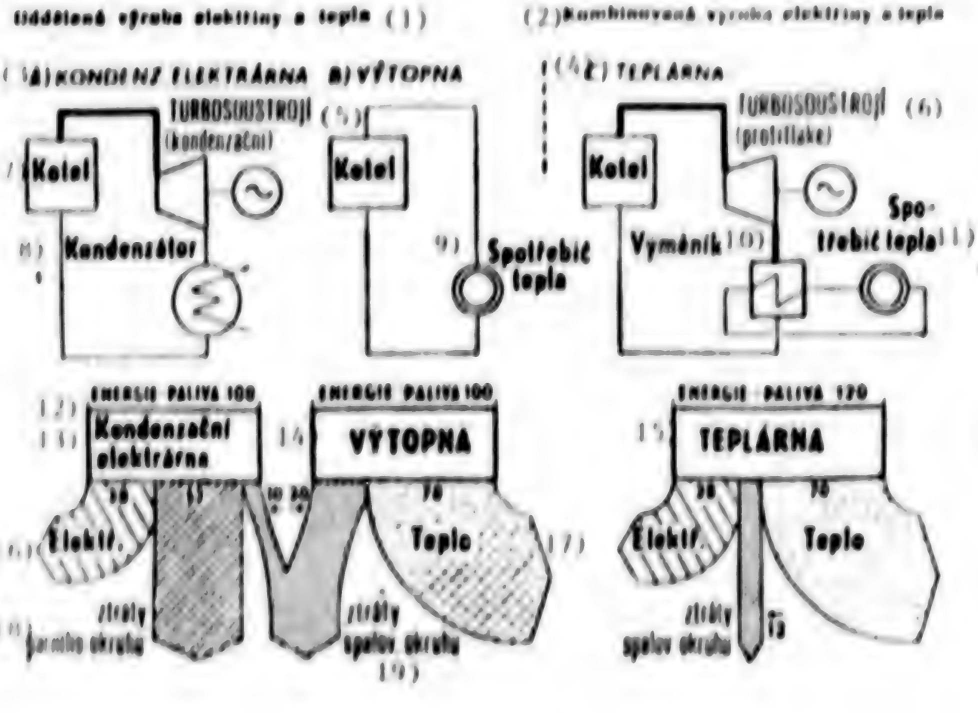
To Raise the Share of Centralized Supply

Heat has the principal share in the consumption of primary sources. While in final energy consumption, electricity takes a 25 percent share, heating of an area of water (low-potential heat) takes about 40 percent, and technological heat and transportation roughly 35 percent.

Overall production of thermal energy anticipated at the level of 1980 will reach 123,690 thousand Gcal/year. To achieve this amount, producers will use up about 25,243 thousand tmp. At the same time, deliveries of thermal energy for living quarters heating and the nonproduction sphere of all sectors represents 20,552 thousand Gcal/year which is 16.6 percent of the total production, and the furnished thermal energy represents 4,195 thousand tmp. Of greatest importance for home heating and the nonproduction sphere are the enterprises managed by the Federal Ministry of Fuels and Power which alone deliver about 75 percent of thermal energy at the 1980 level.

The situation in fuel sources requires that the production of thermal energy in the newly-set quantities be planned virtually exclusively on the basis of brown coal and ground gas. At the same time, it will be necessary to prepare and implement measures which would permit the use of the build-up of nuclear facilities for the conversion of condenser electric plants to heating plants, while reducing the production of electricity from heating oils, thus freeing the necessary minimum of these fuels for the development of heat production. It is necessary to increase the number of housing units which are centrally heated, and to consider a higher share of electricity for heating. This will require appropriate measures in the machinery sectors to supply boilers, heating units, regulatory instruments, etc.

Table 1. Comparison of energy demand in using separate and combined methods of electricity and heat production

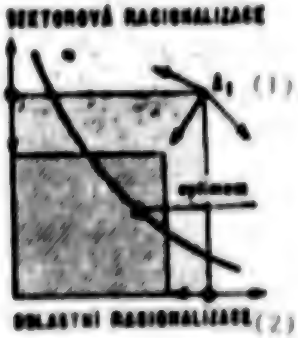


Key:

1) Separate production of electricity and heat
2) Combined production of electricity and heat
3) A/condenser electric plant, B/boiler room
4) C/heating plant
5) Turbo-machinery (condenser)
6) Turbo-machinery (counterpressure)
7) Boiler
8) Condenser
9) Heat consumer
10) Converter
11) Heat consumer
12) Energy-fuel
13) Condenser electric plant
14) Boiler room
15) Heating plant
16) Electricity
17) Heat
18) Steam losses
19) Combustible losses

Central supply of heat can be implemented either by means of boiler units with appropriate accessories placed at the edge of a settlement, town, etc, or by means of heating plants which would first use up steam formed in boilers (higher parameters of pressure, heat) for the production of electricity on a turbo-machine (either antipressure or condenser turbo generators), during the process of which the low-potential (low-heat, process waste) thermal energy will be used for home heating. As seen on Sketch 1, in the production of electricity by the condensation method, only about 38 percent of energy is turned into electricity, while the rest is waste heat of 30-40°C. This can normally not be used and therefore is usually dissipated into the atmosphere by means of cooling towers (warming the atmosphere or water where flow-through cooling is used). If, on the other hand, we use about 20 percent more primary energy (petroleum, crude oil, coal), then we get the same amount of electricity but the temperature of waste heat can be raised to 90°C (or even higher) and this can be used for home heating, thus gaining 3-4 times more valuable thermal energy for heating purposes. It should, however, be noted that the cited 38 percent transformation of introduced energy into electricity should be considered the maximum achievable when using high-grade fuels (liquid, gas). In our conditions oriented toward low-grade fossil fuels, it is closer to 33 percent which makes the pro-itability of the above-cited process even higher.

Table 2.



1) Sector economy and effectiveness
2) Area economy and effectiveness

Advantages of centralized supply of heat, using the combined production of electric energy and heat:

—Reduction of the overall fuel consumption by raising the share of combined production of heat and electricity by as much as 24 - 30 percent.

—Possibility of using lower-grade domestic energy fuels and reduction of import of high-grade fuels.

—Possibility of later introduction of nuclear thermal sources. In this connection, the establishment of regional systems, as opposed to isolated, insular ones, can be considered the trend of the future for this type of heat supply, a process which will begin in 1990. We must remember that nuclear sources can be economically utilized only with great heat consumption (500-1000 Gcal/hour). While we cannot avoid investment in the development of thermal sources in the future, it is a fact that changeovers from one type of thermal production to another is difficult in terms of time, technology, as well as construction.

—Possibility of using existing condenser electric plants for reconstruction to antipressure and separation machinery for heat production, in view of the fact that the radius of such supply increases in proportion to already established technical possibilities (radius 20-30 km is feasible). The electric plants, with staffs of energy workers, would in the future either have to be dismantled or converted for higher parameters (which is financially and technically demanding). Consequently, the suggested method would also help solve the problem of better use of already-available thermal sources.

—Economy in the work force. As compared with separate production of electricity and heat, the number of workers in the combined process is 30-40 percent lower. The fact that workers (rather than just their wages) would be made available to the production sphere, should also be considered one of the advantages.

—Lowering of solid and gaseous emissions, due to lower consumption of fuels, as well as the possibility of using highly effective filters.

—Lowering the ash and gas exhalants by placing the plants outside of populated areas and using higher chimneys.

—Secondary lowering of emissions, due to less fuel transportation, ash removal, and lower heat effect on the atmosphere and environment.

—Lower demands on mining, machinery, and construction, with respect to production, construction and installation capabilities.

—Savings in the installation area (no boiler-room, chimney, fuel storage, etc.)

--Safety of operation (fire, explosion--gas, oil), no risk of oil seeping into lower water, better comfort and working conditions away from metropolitan areas.

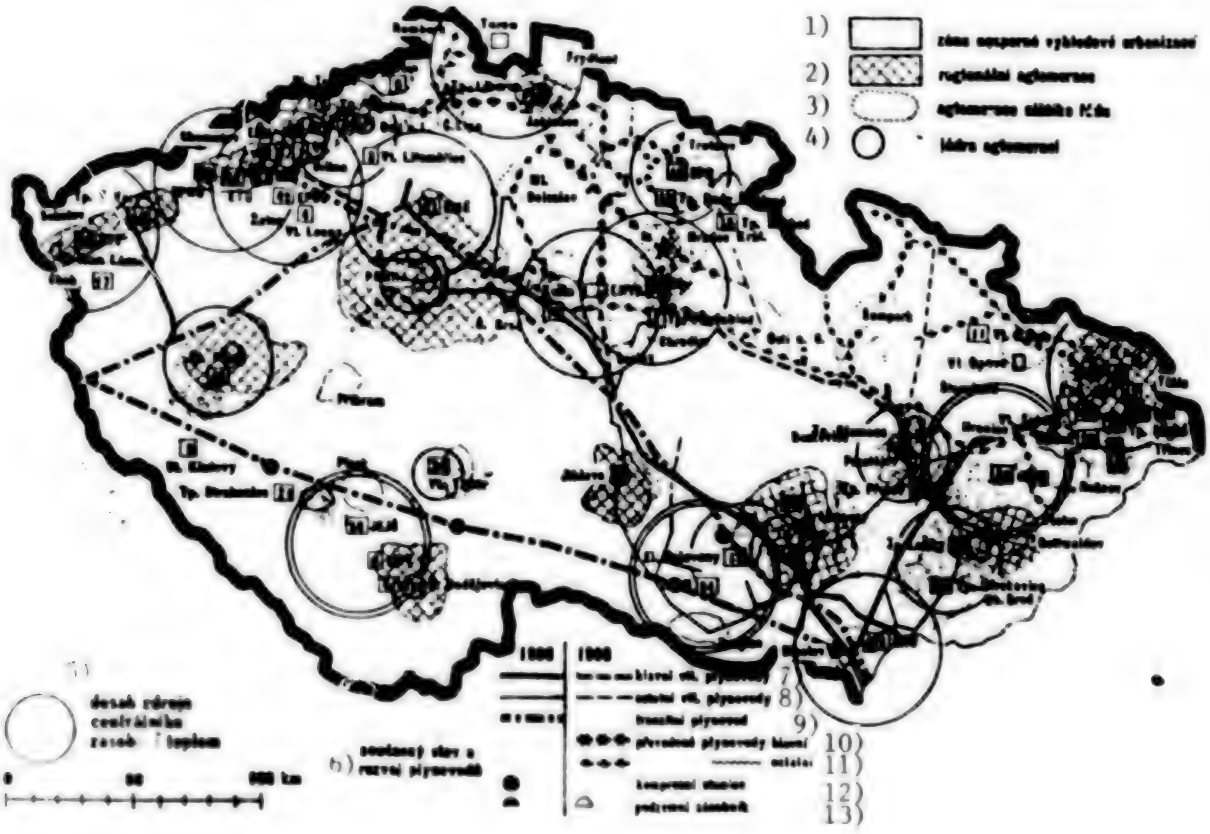
--Lowering the need for research, imports and licenses.

--Possibility of cooperation between industry and the National Committees toward unified concepts with respect to the changes, e.g., the old boiler fund which henceforth will not be transferable on the basis of lower-quality fuels.

--Possibility of introducing technology in the management of heat consumption.

--Lower outlays for maintenance and type-standardization (e.g., USSR, DDR).

Table 3. Development of centralized heat supply and future urbanization in the CSR



Key:

1) Zones of inevitable future urbanization
2) Regional agglomeration
3) Lower-order agglomeration
4) Nuclei of agglomeration
5) Central heat supply radius
6) Current state and development of gaslines
7) Principal gaslines
8) Other gaslines
9) Transit gaslines
10) Rerouted Principal gaslines
11) Other rerouted gaslines
12) Compressor stations
13) Underground storage

There will, of course, be high criteria for planned preparation, correct timing, regulation of heating systems, parallel cooperation, and the need for substitute electric power during the conversion of the present electric plants to heating plants. For the purposes of analysis and ultimate decision, certain factors remain the same (use of land, waste material dumps, new investment). Transportation losses are no greater than with other resources (electricity, gas 5-8 percent). Economic effectiveness computed according to directive No 11 of the Federal Ministry of Technological and Investment Development (operational and investment outlays, computation of the so-called conversion expenditures) is also the same, when compared to other solutions of the problem.

Even at first glance, it is clear that--if we are simultaneously to use coal to produce heat, we cannot continue in the current trend toward parallel development of coal supply based on gas, crude oil, and possibly electricity. A reduction is necessary and, beginning with a certain thermal density (MW/km^2), it is unquestionably advantageous to use centralized heat supplies.

Territorial Aspects

Urbanization is one of the processes to which we must henceforth accord greater attention. This is a many-faceted social, economic, technological and cultural phenomenon in the life of the contemporary world. The structure of the CSR population is marked by too large a dispersal which diminishes the effectiveness of our economy. The urbanization process may be included among the development forms of production forces; however, if we do not proceed with sufficient speed, it could also become a hindrance. The development of existing industrial agglomerates and future urbanization are dependent on heat supply which must play a greater role in the improvements of the component parts of the infrastructure.

Mutual problems of branch, provincial, and territorial planning:

--The branch national economic plan ensures optimal development of production programs in the primary, secondary, and tertiary spheres.

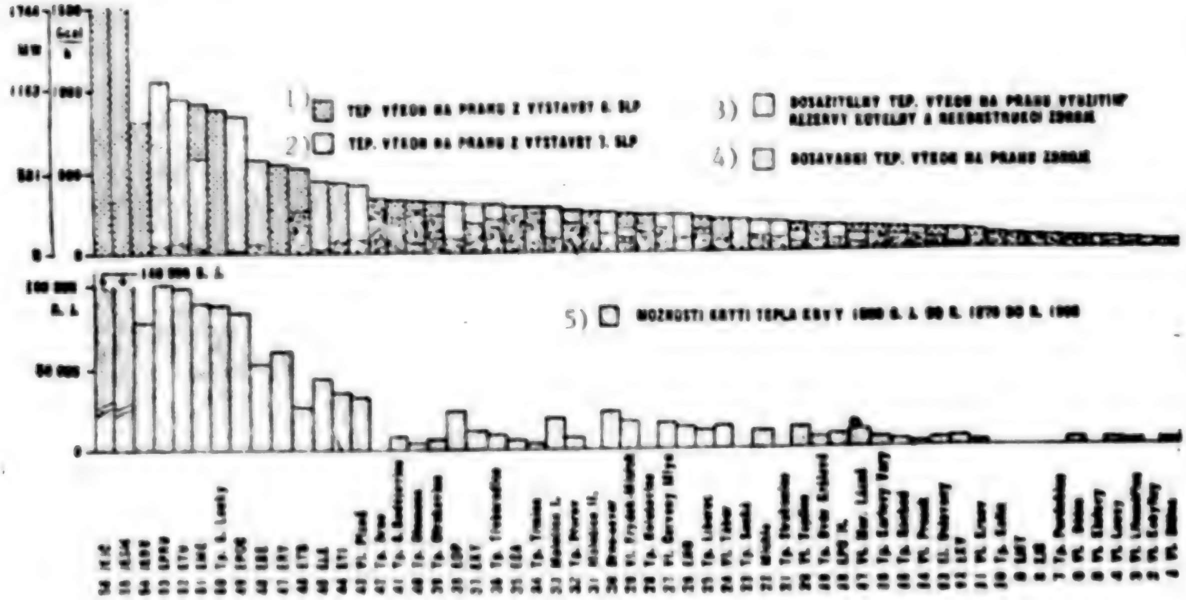
--Provincial planning of development represents the transformation of the national economic plan into areas, while respecting especially: the need to provide locations with the best possible conditions for the implementation of development programs; determination of the limits and organization in the use of natural resources and economic resources; achievement of a desirable interregional proportionality in employment and housing construction; effectiveness and economy in provincial distribution of goods and products with minimum outlays for storage, handling, transportation and sales; as well as provincial integration of interrelated technological production.

--Territorial planning primarily ensures the balance of interests and needs of the ecological system "soil, water, air" and reflects various limiting considerations.

Heat supply must respect all three basic apsects of planning because their optimal application is a natural source of economy and effectiveness, ensuring savings not only in primary resources but also in live labor, while maintaining the necessary level of ecological conditions. Sector effectiveness and economy (basically lowering specific energy consumption) need not always be in accord with the requirements of territorial effectiveness and economy.

Results of studies on the possibility of supplying heat from the resources of the CEZ agglomerate in connection with future urbanization in the CSR, show that the basic prerequisite is the conversion of existing and planned energy sources to the combined production of electricity and heat, using new findings and experiences with long-distance transfer of heat. From sketches 3 and 4 we can see existing possibilities (reserves and conversion) and possibilities in the planned construction during the Seventh and Eighth Five-Year Plans. Also expressed here are the possibilities of supplying housing units for the needs of planned energy installations (medium distance for smaller plants 10-20km, for larger plants 30km).

Table 4. Possibilities of supplying heat from the sources of the Czech energy enterprises



Key:

1. Heat production in the Eighth Five-Year Plan
2. Heat production in the Seventh Five-Year Plan
3. Reachable achievement in using boiler reserve and reconstructed sources

Current heat production at the source

Possibilities of heat coverage in 1000 B.J. from 1979 to 1990

Conclusions Speak Clearly

--In the graph and map we list areas in which centralized heating supply is clearly advantageous (high density of heat requirement MW/km^2).

--It is also seen from this overview where we must direct gas, crude oil, and possibly electricity for heating needs and for the purpose of lowering the number of heat carriers, and where to ensure emergency coverage.

--In many localities, existing resources can be used, especially (see Sketch 3) electric plants with 55, 100 and 200 MW blocks. The zones of certain future urbanization are usually within reach of existing and planned heat resources of the Czech Energy Enterprises (considering heat transfer up to a distance of 30 km).

--It is shown in which areas consumers can be hooked in and old resources, i.e., those to be converted to lower-grade fuel, disconnected, and what structure must be chosen (restructuring 50, 110 and 200 MW turbogenerators and construction on new separation and antipressure TGs of similar size).

--It is indicated how nuclear resources should be located (with later possibility of use for heat production).

--It is clear where construction of housing units should take place with respect to heat supply, and conversely, where sources of heat will have to adapt to future urbanization (where other factors outweigh the requirements of fuel energy). In this connection, it should be stated that central heat supply, unlike other methods, has a positive influence on greater urbanization.

--It is shown what possibilities there are for uses of lower-grade fuels in additional localities where centralized supply would be effective (towns over 20,000 inhabitants) but where at the present time heating must be provided by ground gas, for example.

--in meeting expected development plans in energy and heat up to 1990, including inevitable restructuring and adaptation of existing operations, it would be possible to raise heating performance by the resources of our enterprises (without nuclear facilities) by 10,092 Gcal/hour (11,737 MW), which would theoretically make it possible to hook up more than a million smaller housing units, provided housing construction is undertaken within the reach of our installations. With the conversion to centralized heating facilities, there would be (including increments in heating plant performance coefficient 0.6) a loss of 732 MW el in performance during the peak winter period, and about 12 MW in annual average. The total heating performance from existing sources which can be generated by restructuring, adaptation, and expected new construction by 1990, highly exceeds the requirements of housing construction, and these can therefore be covered by heating production all regions, except the South Bohemian and South Moravian. Of the expected zones of future urbanization and agglomeration of lower type, certain localities remain not covered by the resources of the Czech Energy Enterprises.

--Based on confirmed facts from the past 5 years and on calculations for the future, with centralized heating, as opposed to supply from boiler plants, we can expect a saving of 0.942 worker per Gcal/hour of heating performance. Thus, there is the possibility of saving 9506 workers. The attainable economy is the difference in labor needs between supply from local boiler plants and the needs of the expected growth of deliveries from the SCZT. It is expressed in terms of the actual influence the liquidation of local boiler plants will have on the regional energy-producing enterprises.

--Provided that construction of heating plants is implemented according to the draft proposals for the Seventh and Eighth Five-Year Plans, and provided that long-distance heat transport and distribution is implemented, existing electric plants can be converted into heating plants which will raise performance by 10,092 Gcal/hour, and allow, with normal annual use (3600), a fuel saving of roughly 2.5 million tmp.

The above programmatic outline on the future course of heating supply, is based on detailed calculations made in connection with planning up to 1990. Territorial connections and relationships in energy development and heat supply have heretofore not been monitored in a systemic manner. Consequently, the concept of development did not focus sufficiently on heat consumption in the future. This makes currently-planned conversion of electric plants to combined heat and electricity production all the more difficult (the conversion is motiviated by other considerations as well, e.g., lowering the specific consumption of fuels, rebuilding of obsolete equipment such as the 55, 100, and 200 MW blocks, adaptation for lower-grade fuels, etc).

Quite special and perhaps most important for the territorial scene of today is the need to respect considerations of future thermal energy supply from nuclear sources. This demands the timely establishment of area (provincial) systems in such a manner that investments which are nonvariable and long-term in the classic nuclear source, be initiated already at the present time. This approach is technically feasible, advantageous with respect to economic effectiveness, and vital to the interests of society. As good example, we should take the effective and economical approach of the USSR, but also the other CEMA states, where the share of heat-produced electricity and the share of centrally-supplied heat is considerably higher than in the CSSR.

Similarly, the conversion of older electric plants is taking place at a much faster pace in those countries--and to a larger extent, while isolated cases of production of electricity and heat from high-grade fuels (gas, oil) are considered an exception (during the period of conversion). Briefly stated, programmatic end solutions are considerably better thought out there than here.

9496
CSO: 2400

CZECHOSLOVAKIA

SESSIONS HELD TO DISCUSS 1979, 1980 AGRICULTURAL PLANS

Jakes Heads Meeting

Prague ZEMEDELSKE NOVINY in Czech 18 Dec 79 pp 1, 4

[Text] Yesterday an all-state conference was held in Prague by directors of Regional and District Agricultural Administrations together with general directors of directly administered organizations. The purpose of the conference was to evaluate the achieved plan fulfillment results in agriculture and the food industry as well as preparations for the 1980 plans.

The importance of the conference was accentuated by the participation of: M. Jakes, presidium candidate and secretary of the CPCZ Central Committee; S. Hornik, CSR deputy premier; J. Matousek, Czech Planning Commission deputy chairman; K. Spal, CSR deputy finance minister; E. Cakajda, first deputy minister of the Federal Ministry of Agriculture and Food; F. Suchy and O. Behal, chairmen of the Czech Trade Union Committees of Agriculture and Food Industry Workers, and Czech SDR Committee deputy chairman, J. Polacek.

Not Only the Weather

In his address, M. Petrik the Czech minister of agriculture and food, critically evaluated the results so far achieved in agriculture and the food industry with regard to this year's fulfillment of the Five-Year Plan and solution of the problems which had been discussed at the 13th session and stressed again at the 14th session of the CPCZ Central Committee. He pointed out that this year neither agriculture nor the food industry will succeed in fulfilling the tasks planned for 1979. The over-all agriculture production plan will be fulfilled only at 94 percent to the value of about Kcs 3.5 billion. The biggest share of the shortfall belongs to the crops production which will fulfill the plan only at 88.5 percent. As a result of this lower production the JZD [unified agricultural cooperatives] have suffered a loss of Kcs 2.4 billion and the state farms will register a higher than planned loss by Kcs 1.1 billion. The lower agricultural production is naturally reflected in the food production plan fulfillment. Although it amounts to only less than one percent, it will cause an additional loss of Kcs 600 million. Minister M. Petrik pointed out that not everything can be blamed on the weather having caused a difficult production situation. That is only partially true since the unsatisfactory plan fulfillment has been caused mainly by shortcomings in management and work organization together with inadequate striving for a better productivity, as well as inability to cope with the assigned tasks.

We can enter into the year 1980 only with a thorough evaluation of the positive as well as the negative points in agricultural production. This applies not only to the crops production as a whole, but especially to some of its sectors from which certain lessons must be learned. The grain production program may be included but greater attention should be paid to the protein foods production, the production of fodder, industrial crops as well as vegetables and fruit.

Using examples derived from many JZD and state farms, the minister illustrated how different results may be obtained using different approaches in execution of the production tasks. This he documented by mentioning actual cases from the JZD Bernartice in the Sumperk region and the JZD Kunovice in the Uherske Hradiste region which coped successfully with their production of legumes crops while the same kind of production is lagging in other areas. This can also be applied to sugar beet crops: from the 323 sugar beet farms which reacted to the Prostejov appeal, only 92 have actually achieved the pledged commitment to deliver enough crops to produce 5 tons of white sugar from one hectar of planted sugar beet. Similar examples can be also pointed out in some other production sectors.

A Realistic Foundation

The 1980 plan will be built on a completely realistic foundation. Taking into consideration the less than good results of this year, the plan stipulates that the gross agricultural production will increase by 6.9 percent and the crops production by 17 percent. The planned meat production aims mainly at a more rapid growth in cattle breeding which received an important boost by economic measures to become effective on 1 January 1980. However, the priority given to crops production is of vital importance because it will be no longer possible to burden our national economy and our foreign currency reserves with payments for imported fodder and related commodities. The plan to purchase 3.6 billion liters of milk appears likewise to be realistic, but more attention must be paid to this sector. It is a bad advertisement, for instance, when in the CSR only six enterprises with large herds fulfill their milk production plans while a quarter of the enterprises remain far behind. The minister also said that the available reserves plus our own expected increase in cattle production next year, we should achieve a better utilzation of the livestock by at least 750 to 800 gramms of weight gain. Shortfalls in breeding young animals are also serious. In the CSR there will be 150 thousand fewer piglets this year. The conference pointed out also that besides the large scale production, we must not neglect the supplementary production [contractual animal raising] which this year should substantially increase compared with last year.

With regard to the food industry, besides commending the good points there were also critical words calling for a substantial quality improvement and better utilization of raw materials. Improvement in production management is also called for. Next year new work methods in the food industry will be further developed especially with regard to cooperation and integration with the production of raw materials.

A better economy will have to be introduced in the field of investments, mainly by increasing reconstruction and modernization of buildings and, as far as technology is concerned, by carefully weighing procurement of new machinery and adding only such new items without which the agricultural enterprises cannot operate. ACHP will have to play an especially important role by improving the utilization of fertilizers and pesticides and by paying increased attention to better economy in the utilization of fodder.

Address by Comrade M. Jakes

The same spirit prevailed also in the address by presidium candidate and secretary of the CPCZ Central Committee M. Jakes. He said that the food production cannot be viewed merely as a fulfillment of an economic task. Increased agricultural production and, thus, increased production of food also means stability of the market, which is a highly political question. This is the reason why it is drawing special attention of the 14th session of the CPCZ Central Committee which points out the necessity for consequent realization of all the goals outlined at the 13th session of the party, even in a difficult situation.

One of the main problems is to achieve a better balance between the production of crops and animals. It was not by chance that the 1980 plan did not substantially augment the animal production tasks (only structual changes have been dealt with), but it stresses the need to create conditions for a better selfsufficiency in the production of grain, fodder and other crops. We cannot continually face shortages in agricultural production of fodder. New economic means invite our agriculture to produce meat and milk without using large quantities of imported fodder but using fodder grown in our own fields instead. He stressed again the point mentioned by minister M. Petrik, i.e. that today we must strive for better productivity. Those who will accept the responsibility for fulfillment of the plan, cannot count in 1980 on buying from abroad what they do not produce at home. Such practices must stop and efforts must be made to look for assets first of all in improving our management methods. In this connection M. Jakes appealed to the production organizers, especially to the District Agriculture Administrations to pay increased attention to the JZD and state farms production, to develop organizatorial activity among the people and take care of effective utilization of agricultural investments. He appreciated the fact that the conference dealt also with the development of agrochemical enterprises which he views as an important tool in production intensification. With regard to the plan itself, he said that a change in the plan may be possible only if the fulfillment of the production plan in all sectors is not affected. If, for instance, a reduction in grain planting acreage is proposed, it may be carried out only if a higher yield is guaranteed. The production volumes must not be allowed to diminish, they must keep growing. Comrade M. Jakes focused his attention on attaining higher overall economy in agricultural as well as food production.

Cooperative Farmer Plan

Prague ZEMEDELSKI NOVINY in Czech 18 Dec 79 p 1

[Text] Preparations by the Cooperative Farmers' Union for fulfillment of next year's tasks were yesterday outlined to Prague journalists by chairman of the union's Central Committee F. Jonas and the union's secretary E. Zidek.

In the last year of the Sixth Five-Year Plan, the Cooperative Farmers' Union is concentrating on realization of conclusions adopted by the 14th session of the CPCZ Central Committee by endeavoring to contribute towards increasing the gross agricultural production by 7.2 percent compared with the results of this year. Comrade Zidek explained that it is, therefore, necessary to mobilize all available reserves and, especially, to avoid losses during the harvesting and storing of crops. In view of the fact that the 1980 plan calls for a 3 percent increase in milk production, it is inevitable that every leading agricultural worker daily is alert and looks for and removes anything that may cause reduction in production of milk.

Improving qualification of the farmers has been also discussed at this conference. There are 117 different agricultural-technical schools in the CSR and the numbers of agricultural experts are growing every year. At the present time the JZD employ 9,500 university graduates and over 40,000 high school graduates. The basic specialized education is provided by the Agricultural Training Schools with 345,000 enrolled students.

Agricultural Academy Session

Prague ZEMEDELSKE NOVINY in Czech 18 Dec 79 p 1

[Text] On Monday a plenary session of the CSAZ [Czechoslovak Agriculture Academy] took place, enlarged by the functionaries of its scientific organs. The participants evaluated the academy activities in 1979 and discussed propositions for its main tasks next year. Among the participants were also: deputy minister of the Federal Ministry of Agriculture and Food Ing., Frantisek Kord, representatives of the CPCZ Central Committee and other party and government officials.

CSAZ secretary Ing Alois Slaby reported on the academy's activities. Among other things he said that one of the main tasks of the academy this year was its participation in the preparatory work on a proposal for a unified plan for scientific and technological development in the Seventh Five-Year Plan.

Participation by the CSAZ in international scientific and technological cooperation has increased. An agreement has been signed between the CSAZ and the Soviet Academy of Agricultural Sciencies of V.I. Lenin in Moscow. The agreement aims at solving two problems concerning transportation systems and to optimalize the use of industrial fertilizers and chemical materials for protection of crops in connection with concentration and specialization of agricultural production.

A wide field of the CSAZ activities was its participation in the preparation of prognoses, bases and projects for argumentation connected with evaluating the work of scientific collectives as well as individuals. The CSAZ took part also in 44 important scientific actions such as symposiums, seminars and conferences.

A report about the tasks awaiting the academy in 1980 was delivered by its chairman Karel Kudrna. He emphasized that the work of all CSAZ scientific organs is concentrating on a comprehensive planned program for development of science and technology in order to eliminate duplicity, intensify mutual ties and finish incomplete subjects. Next year the CSAZ scientific organizations will strive for greater international cooperation in the field of science and research, for more effective division of efforts in completing joint undertakings and for utilization of higher forms of this cooperation especially in mutual teams of international laboratories, mutual scientific councils, etc. The CSAZ will continue to participate in the preparation of prognoses for scientific-technological methods of development in agriculture and food up to the year 2000.

Combining forms of cooperation with the practical work will also be intensified, for instance the cooperation with the Regional Agricultural Administrations of the West Bohemian and the East Slovakian kraje, in the districts of Stara Lubovna, Usti nad Orlici, Tachov, Cheb and others.

In conclusion the participants in the CSAZ plenary session adopted a resolution which fully supports the standpoint of the CPCZ Central Committee regarding the peace initiative of the Soviet Union, as adopted by the 14th session of the CPCZ Central Committee.

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CSO: 2400

BRIEFS

PIPELINE CROSSCONNECTIONS--To connect a new section of a pipeline of large diameter to an existing one without disrupting the high pressure flow in the line--that is the purpose of operation "Williamson." We have used this method for the first time in crossconnecting the central sector of the transit gas pipeline with an inner diameter of 900 millimeters. This type of work requires exhaustive preparation, technical cooperative measures, special worker training and discussion of the problem with a number of organizations and institutes. The work process consists of many partial operations, the most critical of which is drilling of the pipeline through a pipe fitting T.D.W. with a Williamson drill and the subsequent sealing with a closing "blind" section of a pipe. The drill time is in the vicinity of 16 hours. Even though in the past we have had no experience with this method, at present there are tens of such crossconnections between the parallel branches of the transit gas pipeline. In 1978 our experts in cooperation with a West German firm RUHRGAS accomplished attachment of a T.D.W. fitting to the PLAVECKY PETER distribution center with dimensions of 1200 by 1200 millimeters which was a first in the whole of Europe. [Text] [Prague ZEMEDELSKE NOVINY in Czech 7 Jan 80 p 1]

YOUTH BUILDING POWER STATION--The engineering equipment assembly at the second statewide youth construction project, the building of the power station Melnik 3, is nearing its completion. While construction personnel of Armabeton, Prague, are finishing the boiler sheathing needed for the continuation of work inside it, in the machine shop they are mainly concentrating on assembly of a 500 MW turbine, the largest ever in the CSSR. The high and medium pressure chambers are already sealed and the Skoda, Plzen, specialists expect the closing of the two low pressure systems to be completed by 15 January. That would bring to a close the machine assembly of the 50 meters long turbine unit. Currently, the pipe and auxiliary systems are being flushed. During February it will be in the turn of the oil system since even a small dirt particle in the bearing could cause a disaster. The first turn of the turbine, using outside steam power, is planned for the end of April 1980, while the attainment of operating speed is scheduled for mid-May. Now only the vibration on individual machine parts is to be evaluated. In the framework of newly developed measuring methods this will be accomplished with artificially created impulses rather than on an operating turbine. [Text] [Prague ZEMEDELSKE NOVINY in Czech 24 Dec 79 p 1]

CSR SUGAR BEET PURCHASES--The enterprises of the sugar beet industry in the CSR have purchased a total of 5.751 million tons of sugar beets, which represents less than 97 percent of the planned quantity. Only enterprises in South Moravia Kraj fulfilled the plan; North Moravian growers delivered 90 percent and the other krajs fulfilled the plan by 87 to 86 percent. There were a smaller number of beets per hectare, harvest losses were greater and the average sugar content for the whole campaign was only 15.7 percent. [Excerpts] [Prague ZEMEDELSKE NOVINY in Czech 13 Jan 80 p 3]

JAKES HEADS AGRICULTURAL MEETING--A nationwide meeting of the secretaries of the CPCZ kraj committees for food and agriculture was held on 7 January in Prague under the direction of Milos Jakes, candidate member of the Presidium and secretary of the CPCZ Central Committee, and included Jan Baryl, member of the Presidium and secretary of the CPCZ Central Committee, the ministers of food and agriculture and the ministers of forestry and water management. Also present were representatives of the central committees of the pertinent trade unions, the Union of Cooperative Farmers and the Socialist Union of Youth. Attention was devoted to discussion of tasks with workers and to the broadening of worker initiative, aiming at achievement of high quality in all work. It is necessary to concentrate efforts on utilization of under-used resources, particularly to overcome the lag in vegetable production, and to concentrate on increasing the production of bulk fodder for the development of cattle raising. Stress was put on efficiency, particularly on increasing yields and utility, rational management of fodder, reduction of losses of all kinds and, in the food industry, on the high valuation of raw materials, increasing of quality and expanding variety. Great attention was devoted to the political-organizational and control functions of party organs and organizations, the managing functions of the agricultural administrations and the active participation of mass organizations. [Text] [Prague RUDE PRAVO in Czech 8 Jan 80 p 1]

CSO: 2400

1980 NATIONAL ECONOMIC PLAN PUBLISHED

Budapest NEPSZABADSAG in Hungarian 23 Dec 79 pp 1,2

[Communique of the Information Bureau of the Council of Ministers]

[Text] The government has evaluated the development of the people's economy in 1979 and has discussed and approved the people's economic plan for 1980.

Development of the People's Economy in 1979

The Council of Ministers established that although execution of the 1979 plan began in an economic situation which was more difficult than expected the chief economic policy goal was successfully achieved--the process of restoring the economic balance was begun. Execution of the plan was made more difficult by the fact that the weather caused a drop in production in agriculture and by the fact that the deterioration in the terms of trade, which was greater than calculated, was accompanied by a significant price deficit.

The development of the people's economy can be called favorable--taking into consideration the difficult external and internal circumstances. Although progress is not yet satisfactory in fulfilling the tasks posed by the efficiency and quality demands being made of economic work the balance situation of the people's economy is improving and for the most part economic processes are developing approximately as planned. All this is due to the fact that basically the plan correctly defined the chief goals of economic work this year and the means and measures serving execution, that the attitude and practical activity of economic guidance organs developed significantly and that management organizations and the workers did effective work in the interest of achieving the goals.

Starting from the requirement to improve the balance situation the plan determined that the way to increase production and national income was: a dynamic increase in the production of products which were produced economically and which were competitive on every market; a decrease in expenditures; a swifter transformation of the structure of production and export; a reduction in uneconomical production; and an improvement in efficiency, quality and work productivity.

In accordance with this the plan prescribed a level of internal use similar to that of 1978, involving a modest increase in consumption and a moderation of accumulation, a swift increase in export and a very small increase in import.

In accordance with the guidelines of the people's economic plan the rate of economic growth was smaller than in 1978. The direction of development and the distribution ratios basically correspond to what was planned. National income increased at a lesser rate than planned, primarily because of the decrease in the national income generated in agriculture.

Internal use of national income lags behind the 1978 level and behind the planned level also. Within this consumption by the populace is increasing to a moderate degree and accumulation is substantially lower than in the preceding year. Export is increasing dynamically and import is decreasing in accordance with the prescriptions of the plan.

The increase in industrial production is slower than planned as a result of the decrease in internal use. The rate of development is more moderate than last year especially in the electric power industry, the machine industry and the chemical industry.

The structure of industrial production is changing in accordance with the goals of the plan. Domestic sales by industry—as a function of the development of demand--are increasing marginally or not at all but in a few cases needs were not satisfied. Ruble accounting export is increasing according to plan and non-ruble accounting export is increasing more than planned. The production of enterprises which are dynamically increasing non-ruble accounting export is developing more swiftly than the average. But the production of a number of enterprises did not reach the 1978 level.

The development of internal cooperation contacts is still not satisfactory and in some cases material and parts supply difficulties caused stoppages in production. The implementation of measures aimed at increasing material and energy thrift and at modernizing the production structure is making little progress.

There has been an increase in the number of enterprises which are short of funds, which are operating at a deficit or are having payment difficulties, because of the unsatisfactory improvement in management, the slow change in the production structure and regulation which better transmits the more difficult economic conditions. These enterprises have increased their efforts to improve their situation but it was necessary to give central aid to a few enterprises.

Construction industry output increased at a swift pace in the first half of the year. In the second half of the year the rate of growth gradually declined. Output corresponded to what was planned in the year as a whole. The number of construction orders rejected decreased.

The production of agriculture was smaller than planned--because of the unfavorable weather--and will be the same as in 1978. Crop production is below last year's level; the production of animal husbandry is increasing. Fall sowing on 220,000 hectares was lost because of a fall poor in precipitation, the hard winter and internal water. The drought in late spring and early summer caused a further drop in production. Less than planned was produced in bread grains, rice, potatoes, fruits and vegetables.

Animal stocks--with the exception of cattle--exceed the planned level and the level for last year for all types. The production of slaughter cattle is developing about as planned; milk production is making possible the satisfaction of needs. The favorably developing hog and sow stocks made possible the production of more slaughter hogs and is laying the foundation for a further increase in production.

Freight deliveries are increasing more slowly than in the preceding year--as a function of the more moderate rate of production. Rail deliveries exceed those of last year to a moderate degree while those of highway transportation exceed those of last year more significantly. The rate of growth in passenger transportation has moderated. Transportation capacity developed further this year. The number of passenger automobiles is increasing by more than 100,000. Nearly 220 kilometers of road were modernized and surfaces were strengthened on more than 1,300 kilometers.

Manpower resources continue to decrease--primarily for demographic reasons. Despite this the number of active earners is practically unchanged--because of the numerical decrease in those on child care aid and those engaged in housekeeping.

Manpower demand for enterprises moderated. The number of employees decreased in industry and the construction industry. Personnel in the service branches is increasing approximately as planned.

The increase in real income and consumption by the populace moderated. In the wake of the July price measures the price level increased more significantly than in earlier years.

The money income of the populace is increasing significantly--this includes the income supplements connected with the price increases--but because of the increase in consumer prices real income per capita barely increased or increase not at all and real wages of workers and employees decreased somewhat. Consumption by the populace is increasing approximately as planned since they are turning a greater proportion of their income than earlier to the purchase of goods.

The supply of foodstuffs is adequate. Sales of industrial articles expanded also but the demand, which increased greatly in some periods, could not be entirely satisfied for a few products (some clothing articles, technical goods, furniture and construction materials).

By the end of the year the number of dwellings being built approximates what was planned. Health services continue to improve, primarily with the expansion of the number of beds in treatment institutions. The capacity of nurseries is increasing; the capacity of kindergartens is increasing more than planned--primarily as a result of social cooperation. The number of general school class rooms is increasing and the number of students per class room is decreasing.

The volume of investments is developing at about the 1978 level--in harmony with the plan.

More than last year, and more than planned, was turned to state investments. Of the large investments planned for completion this year the following were completed: the first stage of the Tisza Thermal Power Plant, the computer technology development at the Hungarian Optical Works, the development of the Phylaxia Vaccine and Supplement Producing Enterprise, the polypropylene factory of the Borsod Chemical Combine, the development of the Simontornya Leather Factory and the investment at the Semmelweis Medical Science University. Capacity at the Hadjdusag Sugar Factory and the Hungarian Roller Bearings Works was expanded according to plan but completion was postponed to 1980. More than last year and more than planned was turned to lump-sum investments. Other state investments correspond to what was planned.

The enterprises generated developmental funds somewhat smaller than calculated. The extension of credit was somewhat smaller than planned. The value of enterprise investments decreased somewhat. The enterprise turned their financial resources primarily to the completion of investments under way so they began few new investments.

As a result of strict government measures the enterprise are turning more attention than before to rational stockpile management. Thus the accumulation of stockpiles moderated significantly as compared to the very high 1978 level and was even somewhat smaller than planned.

Favorable processes unfolded in foreign trade in 1979.

The balance of ruble accounting trade developed according to plan--at a smaller than calculated level for both import and export. The chief goal in non-ruble accounting trade--improving the foreign trade balance--is being realized. Export is increasing dynamically in excess of what was planned. The level of import is decreasing as compared to 1978 but it is greater than in 1977. Although the terms of trade deteriorated to a greater extent than calculated the deficit of the trade balance is substantially smaller than last year.

The Chief Goals and Prescriptions of the 1980 Plan

Starting from the December 1979 resolution of the Central Committee of the Hungarian Socialist Workers Party we must regard an improvement of the balance situation of the people's economy, including primarily an improvement of the non-ruble accounting foreign trade balance, and laying secure foundations for a further improvement as the most important economic policy goals in 1980 also. Tasks connected with the development of production and the standard of living and with economic development must be carried out in harmony with this goal.

The 1980 people's economic plan reckons with the fact that external economic conditions will continue to be unfavorable; the terms of trade are expected to deteriorate further. Under these conditions the balance situation of the economy can be improved with a more vigorous improvement of the efficiency of production, with a swifter transformation of its structure, with the increased disclosure of management reserves, with far-reaching thrift and with a further moderation of internal use.

Starting from the chief goal the 1980 people's economic plan defines the rate of economic growth and the chief ratios of production and use. Final internal use will be somewhat below the 1979 level. Within this accumulation will decrease.

Import will increase moderately and export will increase dynamically. As a result of this the import surplus will decrease further--even with the expected deterioration in terms of trade.

Production can increase moderately and in a differentiated way--putting quality and efficiency factors in the foreground. To a crucial degree the increase in production must serve an expansion of economical export. As a result of increasing energy and material thrift and rationalizing the expenditure structure we must see to it that material expenditures increase least in production.

The Most Important Prescriptions of the 1980 People's Economic Plan, In Percent of 1979

National income	103.0-103.5
Internal use	99.0
Industrial production	103.5-104.0
National construction and assembly output	97.0-97.5
Production of agricultural products	105.0-105.5
Investments in the socialist sector	95.0-96.0
Real income per inhabitant	100.0
Consumption by the populace	101.0-101.5

Industry

The qualitative character of development must be strengthened in industrial production. The structure of production and marketing must be developed in such a way as to dynamically expand primarily economic export in the non-ruble relationship; export in the ruble relationship should develop in accordance with inter-state agreements and domestic demand should be better satisfied. In accordance with this the increase in production will be differentiated. Under conditions which are becoming more difficult those enterprises can develop dynamically which accelerate technical development, modernize their product composition, products and technological processes, improve the quality of their products and the organization of their work, develop their cooperation contacts and trade activity and bring their production capacity and the utilization thereof more flexible into harmony with changing demand and other economic conditions.

The plan stipulates that industrial enterprises should outline the development of their production structure for several years ahead--taking into consideration the changing regulator system. In low efficiency enterprises constantly in a bad economic situation they will prepare a program for economic, structural and if necessary organizational changes, including the regrouping of manpower, which will result in a substantial improvement in their activity. More active economic organizing activity and cooperation among enterprises will aid the organization or expansion of the economical production of sub-assemblies, parts, semi-finished goods and finished goods which have been in short supply, will aid the development of cooperation contacts, strengthen contract discipline and rationalize stockpile management.

Of the industrial branches, the production of mining will remain at the 1984 level, coal and petroleum production will be similar to this year. Metallurgical production will increase moderately, that of aluminum metallurgy therein more swiftly. Machine industry production will increase more than the industrial average; the manufacture of chemical industry and vacuum technology machines and equipment, of autobuses, of electric rotary machines, of semi-conductor tools, of light sources, of electron tubes and of business technology tools will increase especially dynamically. In the construction materials industry there will be an increase in the production of cement, tiles, household fine hollow glass and decorator porcelain products. The most dynamically developing branch of industry will continue to be the chemical industry; production will expand primarily for truck and tractor tire casings, PVC, pharmaceuticals and crop protection materials. The moderate expansion of light industry production will serve primarily to increase economical export--as well as satisfying consumption by the populace. The production of the foodstuffs industry will increase more than industrial average.

Taking into consideration the increase in and modernization of fixed assets and by realizing better work organization the productivity of work in industry will increase more quickly than production. So the number of of employees may decrease by about 20,000 persons. Taking into consideration the development of material expenditures for production, the more efficient utilization of assets and the increase in work productivity the national income generated in industry may increase more than the increase in production.

The Construction Industry

In harmony with the planned level of investments, the construction industry must satisfy better than heretofore the solvent demand. The completion of productive investments under way must be accelerated; the organization and quality of contracting must be improved. The ratio of investment construction within construction and assembly tasks will decrease and that of maintenance type construction tasks will increase. Because of the above mentioned volume and structural changes we must facilitate the appropriate regrouping or freeing of construction capacity and manpower.

Agriculture

The task in agriculture is a significant increase in crop production while maintaining the production level achieved in animal husbandry. The plan prescribes a 10-11 percent increase in crop production--after the unfavorable grain production this year. In the interest of this the sowing area for grains will increase by 100,000 hectares. The sowing area for leguminous plants, rich in proteins, must be increase also. Yields must be increased by increasing use of high yield types; meadow and pasture management must be improved as must utilization of by-products.

The efficiency of production will improve and the contribution of agriculture to the generation of the national income will increase with a thriftier and more economical utilization of assets, especially artificial fertilizers, crop protection materials, machines, and protein fodders.

The increase in foodstuffs production will serve primarily to increase export. In accordance with this the composition of production must be changed and the ratio of processed products which can be exported economically must be increased.

Transportation and Communications

Freight output will increase more swiftly in 1980 than this year--primarily as a result of increasing agricultural production. Passenger output will increase also.

As a result of the planned development of rail transportation the capacity of the net and the safety of traffic will improve further. The ratio of modern traction will reach 95 percent. We will acquire 1,900 autobuses and 17,000 trucks for highway transportation. Passenger automobiles will increase by more than 100,000 units. Vehicles for urban mass transit will be modernized. The rebuilt Petofi Bridge and the section of the north-south metro line between the Kobanya-Kispest rail station and Nagyvarad Square will be handed over in the capital. Traffic may begin on the section of the M3 highway between Godollo and Hatvan. The telephone network will be expanded and possibilities for television reception will improve.

Investments and Development of Stockpiles

The increase in the volume of investments--in addition to its favorable effect on the foreign economic balance--will aid in improving the harmony between supply and demand for investment goods and will accelerate the completion and placing into operation of developments under way.

In the productive branches developmental assets must be concentrated primarily on investments nearing completion which will serve to improve the foreign economic balance. Other investments can be undertaken in accordance with the financial and contracting possibilities available; in some justified cases--if there is a change in market conditions or financing possibilities--developments may be rescheduled or investment plans may be modified.

Less than this year can be turned to state investments. Nine large investments will be completed. The most significant of these are the investment at the Belapatfalu Cement Factory, the Recsek mining survey and the Tisza petroleum refining investment. No new large investments can be started. State support for enterprise investments will be smaller than this year and the investment credit framework will decrease also. The planned realization of economical developments which expand the convertible export goods base and save import must be aided; we must aid well founded economic and technical preparations for such new investments and the initiation of well prepared investments.

In the sphere of non-productive lump-sum and other state investments we must also concentrate primarily on continuing and completing investments already begun; at the same time we must create the conditions needed to lay the foundations for developmental activity after 1980 according to a realistic schedule.

In the area of stockpile management quality requirements will come into the foreground.

The plan is counting on the enterprises to accelerate the modernization of the system and organization for material and stockpile management and to sell superfluous stockpiles on the shelf.

Employment; Income, Consumption and Living Conditions of the Populace

In addition to full employment of the labor force the swifter and more efficient changes in the production structure are increasing the need for the mobility and professional flexibility of the labor force. The manpower demand in the productive branches is moderating--as a result of the moderated growth of production and the changing regulator system. The number of employees is decreasing in industry and in the construction industry. The number of workers in agriculture is not expected to change--taking into consideration the expansion of industrial activity. Personnel will increase moderately in the non-productive branches. Taken together these changes significantly ease the manpower shortage, ending it in many places in favorable cases.

Real income per capita will remain in 1980 at the same level as in 1979. In addition to the effect in 1980 of the price and income measures of July 1979 the average earnings of workers and employees will increase by 4.5 percent while the consumer price level will increase by 3.7 percent--as a result of central price measures and the development of market relationships. As compared to the second half of 1979 real wages or real earnings will increase by a national average of 0.5 percent--after a temporary decrease. The increase in nominal earnings will be better adjusted to economic results.

Differentiation of incomes according to work done must be increased. Changes in consumer prices must aid more flexibly than heretofore the approximation of prices to expenditures, creating better harmony between supply and demand.

The plan prescribes a balanced supply of goods. The state and cooperative trade and service network will be expanded.

Infrastructural service to the populace, especially the medical and children's institution network, will develop further in 1980. About 82,000 dwellings--including [illegible],000 state dwellings--will be built. The supply of basic institutions for new residential areas will improve.

With the increase in the number of beds in medical institutions there will be 91 hospital beds per 10,000 inhabitants by the end of 1980. The expansion of the Kerepestarcsa hospital by 500 beds will improve service. Out-patient services will develop also. Nursery capacity will expand. The capacity of social homes will increase significantly also.

With the expansion of kindergarten capacity it will be possible to take care of [illegible] percent of the children of kindergarten age. With the increase in the number of general school class rooms the number of students per class room will decrease further. Conditions for skilled worker training will improve further with the handing over of 160 new class rooms and housing accommodations for 1,600 persons. The universities and colleges will be able to admit [illegible] new freshmen to day classes. Construction of the Vorosmarty Square cultural center in Budapest will be completed.

International Economic Contacts

In ruble accounting relationships import will increase by at least 5-6 percent and export by a similar amount. The goal in non-ruble accounting relationships is to further decrease the deficit in the trade balance. Therefore export will increase dynamically, by more than 10 percent, while the volume of import remains somewhat below the 1979 level.

By improving the cooperation of producing and foreign trade enterprises we must get to know market possibilities and requirements better and must realize more consistently the economic interests of producing and user enterprises and the balance goals.

We must strive to hold and expand markets, to increase export prices to the maximum obtainable and to exploit the advantages deriving from business cycle changes with a good timing of sales and purchases.

By harmonizing the interests of producing and foreign trade enterprises we must strive to improve the profitability of export and to convert capacity to economical export.

Measures Serving Execution of the 1980 People's Economic Plan

The people's economic plan prescribes that the central and local organs of economic guidance should carry out uniform guidance activity in accordance with the goals of the plan which will give expression to all-social interests.

They should consistently carry out the central decisions incorporated in the plan, should constantly attend to the development of economic processes and in case of need should initiate and take further measures serving to achieve the goals.

A broad sphere of government measures supports the realization of the 1980 people's economic plan. The modification of the system of economic regulators serves realization of the chief economic policy goals of the plan. The changes are creating management conditions which will prompt the enterprises to a more vigorous and effective development of the structure of production in accordance with international value judgments, to an expansion of economical export, to more rational and more thrifty management and to increased realization of the demand for quality. The modifications are aiding a fuller and more consistent realization of the basic principles of the economic guidance system; they more vigorously encourage an increase in economic efficiency and an improvement in the balance situation of the people's economy; and they give more room than heretofore to differentiation of enterprise and personal incomes--depending on achievements.

The guiding principles of the new producers price system to be introduced on 1 January 1980 will be realized continuously. If producers prices develop in some areas in a way which substantially deviates from the basic principles of the price adjustment then modifying measures will be taken; producers prices will follow changes in world market price ratios more flexibly than heretofore.

The price authorities will see to the consistent adherence to price formation prescriptions by tightening up on price supervision and by making consistent use of the sections made possible by the regulations--including the initiation of the levying of economic fines.

Fulfillment of the goals contained in the 1980 people's economic plan will require manifold, complex activity at every level of management. But these goals can be achieved with the effective execution of the measures prescribed and of possible later measures and with effective economic work by state economic guidance organs, enterprises and cooperatives.

The Council of Ministers--in agreement with the National Council of Cooperatives--considers it important that the labor competition movement also further the realization of the people's economic plan. The labor competition pledges of the enterprise collectives and the socialist brigades will most effectively serve the plan goals if the undertakings are directed primarily at improving the efficiency and economicalness of production, at rational material and energy thrift, at increasing production of articles which can be sold economically on domestic and foreign markets and at strengthening cooperation and contract discipline.

The Council of Ministers appeals to our working people to actively participate, after understanding the goals of the plan, in the work being done to achieve them.

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CSO: 2300

ROMANIA

FURTHER DEVELOPMENT OF AGRICULTURAL EXPORT SECTOR STUDIED

Bucharest REVISTA ECONOMICA in Romanian No 39, 28 Sep 79 pp 10-11

[Article by Dr Mircea Cucas: "The Responsible, Creative Carrying Out of Export Plan Tasks"]

[Text] A Revolutionary Approach in the Use of Our Own Resources

The development of foreign trade is, first of all, conditioned by products of an appropriate quality that will ensure the higher use of raw materials and the products of our people's labor for export. The secretary general of the party, comrade Nicolae Ceausescu, gave special attention to these economic priorities in his speech at the Working Conference of the Romanian Communist Party's Central Committee of 5 to 7 September 1979, considering them to be essential to the proper operation of the entire economy.

Agriculture, a sector of special importance for the economy, has a series of tasks along the lines of fulfilling the export plan, either directly regarding providing the fund of goods for export or indirectly involving exports, such as providing raw materials for other sectors of the economy that deliver goods for export. Through the development of offers for agro-food products that ensure a higher use of the foreign market through the intensive development of agriculture, an important resource can be provided for the stability of balance of trade and payments.

The current international situation, characterized by a continuation and deepening of the economic crisis in the capitalist countries and the energy and raw materials crisis and by the scarcity of agro-food products and so forth, once more requires the higher use of each country's own resources. In the view of a balance of scarce agro-food products (production-demand), according to FAO estimates, through 1985 the agro-food products market appears it will be one of the most certain markets. As an example, just in cereal grains alone there will be a considerable net deficit (over 70 million tons). To satisfy this demand, generated by the growth of both population and the standard of living, world agriculture will have to provide a supplimentary production in 1985, compared to 1980, of approximately 240 million tons of cereal grains, nearly 40 million tons of sugar, 110 million tons of vegetables, 90 million tons of fruits and 60 million tons of meat.

Keeping in mind, on one hand, the combination of circumstances on the world market, while, on the other hand, the fact that at the level of a national economy agriculture, through intensive development, must multiply its contribution to general economic development, an intensive development is also envisioned for our exports of agro-food products.

In this regards we have natural and human resources that must be mobilized for the purpose of achieving a new revolutionary spirit in agricultural activities, in the sense of transforming the accumulations in this branch into a new quality and for putting our country's agricultural resources to better use.

Intensive Agriculture, An Industry of High Efficiency

Both the socialist countries (see Table No 1) and the industrially developed capitalist countries* have placed and are placing special

Table No 1

Percent of Investments in Agriculture in the Total Investments of the National Economy - 1976 (in percent)

Country	1970	1975	1976
Bulgaria	15.8	14.7 [1]	14.7 [1]
Czechoslovakia	10.7	12.3	11.7
GDR	11.0	11.8	11.2
Yugoslavia	6.8	7.5	7.1
Poland	16.3	13.5	13.9
Romania	16.4	13.5	14.0
Hungary	20.8	20.0	15.3
USSR	17.9	20.7	20.8

[1] Not counting silviculture. Source: "The CEMA Statistical Handbook," 1978

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* In the Common Market, agriculture, an integrated economic branch, has had an intensive development in the production of cereal grains, in the zootechny sector (beef production, milk, butter and pork) and in

stress on the intensive development of agriculture and the growth of agricultural offers for export.

Corresponding to the investment efforts made, as well as the concerns for improving the organization of agricultural production and the conditions under which harvesting and harvest storing are carried out, important increases have been recorded in the average production per hectare (see Table No 2).

The wine production sector, with the level of self-supply with agro-food products in the European Economic Community substantially increasing in recent times. Holland, for example, with an agricultural surface area of 2.1 million hectares, of which 800,000 hectares are arable, and with 6.6 percent of the employed population working in agriculture, permanently registers a positive balance of trade in agro-food products: in 1977, approximately $3 billion (imports totalling $7.7 billion and exports of $10.7 billion). With nearly $11 billion of exports in agro-food products in 1977, Holland has the greatest percentage (23 percent) in the total of agro-food products exported by the European Economic Community (France - 22 percent, FRG - 14 percent). These results are based upon intensive, high performance, very well equipped agriculture - a 330hp tractors per 100 hectares of agricultural land, 28 combines per 1,000 hectares, 95 milking machines per 1,000 cows, 304 kilograms of fertilizers per hectare (N - 217; P - 39; K - 48). This results in peak average production, such as: cereal grains 4,780 kg/ha; potatoes 39,700 kg/ha; sugar beets 46,700 kg/ha; milk 4,777 kg/cow and so forth.

The FRG, a country which, through its industrial excellence (the percentage of agriculture in its gross social product was 2.7 percent in 1976 and 7.6 percent of the employed population were active in agriculture), is intensively developing its agriculture (330hp tractor per 100 hectares of agricultural land, 74 combines per 1,000 hectares, 235 kg of NPK fertilizer per hectare, 89 milking machines per 1,000 cows), has succeeded, on an agricultural area of 7.1 million hectares, in achieving in 1978 a production of 9.8 million tons of bread grains and 11.7 million tons of fodder grains, covering 81 percent of its required amount, 11.3 million tons of potatoes (90 percent of the required amount), 2.3 million tons of sugar beets (110 percent) and, at the same time, in exporting, in 1977, agro-food products worth approximately $6.5 billion.

Table B-2

Average Production of the Principal Agricultural Products - 1976
(in kilograms per hectare)

Country	Wheat	Corn	Potatoes	Sugar Beets
Bulgaria	3,970	4,130	11,900	33,200
Czechoslovakia	3,760	3,600	17,600	24,400
GDR	3,560	-	11,400	19,100
Yugoslavia	3,470	3,840	8,800	44,000
Poland	3,130	-	20,300	27,200
Romania	2,790	3,410	15,900	29,400
Hungary	3,880	3,810	12,100	30,500
USSR	1,630	3,060	12,000	26,600

Source: "The Statistical Handbook of the Socialist Republic of Romania," 1978.

Agriculture and the export of agro-food products play an important role within the framework of the foreign trade of certain socialist countries (Hungary, Bulgaria), which provides an important hard currency contribution through this channel.

A recent analysis of European trade of agricultural products by the EEC and the United Nations stresses several remarkable trends in this sector. Thus, Hungary's agricultural trade has continually

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The interest in the intensive development of agro-food exports is encountered in the great majority of the advanced industrial countries. For example, in France a draft was recently drawn-up for a law on agricultural guidance, which in essence proposes to strengthen agriculture's economic capacity, bringing about a long-term strategy which will guide decisions in the fields of agriculture and the food industry for the next 20 years. With regards to guiding production according to market demand, under the concept of marketing, the political measures pursue the development of those products which can find consumer and processing markets both domestically and abroad, under competitive conditions in relationship to the other suppliers on the international market. The French minister of agriculture proposes to compensate for handicaps in a series of products, favoring the technical adaptation and development of producer units, the restressing of the farmers' craft and the creation of incentives to stabilize young people in the rural environment, to which end special financial measures are foreseen.

developed in recent years, both in exports and imports, which has allowed it to ensure a considerable surplus in its balance of trade of agro-food products (approximately $625 million) in 1977, with Hungary and Bulgaria (a surplus of $444.7 million in 1977) being the only two socialist countries having surpluses in their agricultural trade.

With regards to our country, although the percentage of the group of agro-food products in the total amount of exports has continuously increased, the positive import-export balance for agro-food products has not, in recent years, covered all the imports of all raw agricultural materials (cotton, natural fibers and so forth). This requires concern and firm measures to increase the contribution of this group in stabilizing the country's balance of payments and trade.

The percent of agro-food products exports in the total exports of certain socialist countries in Europe has evolved, in the 1975 to 1977 period, as noted in Table No 3:

Table No 3

The Evolution of the Percentage of Agro-Food Products in Total Exports

	1975	1976	1977
Bulgaria	12.5	12.3	14.5
Czechoslovakia	4.6	3.8	3.2
GDR	1.7	1.5	-
Poland	8.9	8.7	7.3
Romania	16.3	16.1	18.9
Hungary	23.0	23.4	31.5
USSR	7.3	5.6	6.1

Source: FAO Statistical Handbook, 1979. For Romania: "The Statistical Yearbook," 1978.

The Branch with the Highest Degree of Input Use

Today, agriculture has especially significant tasks in the complex of the national economy. The development of the raw materials and supply base in agriculture is one of the most important economic priorities upon which the future development of industry and all branches of activity will depend.

More than any other time we are now faced with the problem of the increased contribution that Romanian agriculture can make in sustaining the efforts for socialist industrialization, under the conditions of developing a modern agriculture that will use the natural resources of the land in the best possible conditions.

As Table No 4 shows, at the current level of labor productivity in the economy, for each percentual unit of material costs (expended labor) .81 units of national income is obtained in industry (newly created labor), while for agriculture the figure is 1.56 units. This is so without taking into consideration the contribution of the food industry to the creation of national income.

Table No 4

The Specific Weight of Industry and Agriculture in the Social Product - 1977

	Social Product	Material Costs	National Income	Index (Column 3/ Column 2)
Industry	65.	74.9	60.7	.81
Agriculture	14.2	10.4	16.3	1.56

Source: Calculated according to the "Statistical Yearbook of the Socialist Republic of Romania," 1978, pp 87-89.

Ensure this, additional material and human efforts are necessary that will ensure a substantial increase in average production, while, at the same time, an improvement of the conditions under which the harvest and harvest storage are carried out - critical moments in ensuring a high quality for raw materials. On the basis of these raw materials better processed and high quality products will be obtained that will be optimally used on the foreign market. Ensuring these conditions will contribute to the more rapid growth of agro-food products exports and to the recording of a positive balance in the trade of agro-food products. This will contribute to the achievement of a surplus trade balance and, in this way, increase the contribution by agriculture and the food industry to stabilizing the balance of foreign payments.

"Romania," stressed comrade Nicolae Ceausescu, "will continue in the coming years to import raw materials and materials. Keeping in mind that on a worldwide scale prices continue to increase, we must place a much greater accent on the responsible use and use with a maximum spirit of management on that which we have in our country." The development of agriculture will have to be both quantitative and qualitative, with production having to respond to the growing concerns for quality and to adapt to the evolution of the specific demands of the processing industry.

A Vast Market, But with Higher Marketing Requirements

Exports cannot be and must not be the occasional outlet for the surpluses of national production. On the contrary, agricultural and agro-food products must permanently be present on the foreign markets, showing a continuous, firm and scientifically directed development effort. This presupposes the orientation of production depending upon foreign markets, the development of specialized units and the review of foreign trade networks for the purpose of obtaining a corresponding income from the sale of agro-food products abroad.

In the coming years, with conditions for a nearly certain sales market for a broad range of agro-food products (with a listing of the shortages on the world market for basic products, wheat, corn and so forth, having previously been made under the title of examples) and keeping in mind the growth of reserves in this sector, the producers and exporters will have to make efforts to provide a broad range of products demanded on the foreign market, working for lasting sales in markets where they have already made in-roads.

At the same time, the shortage of fertilizers, accentuated by the energy crisis, has brought about a rapid increase in the prices for agricultural raw materials, prices for wheat, corn and so forth, running today at levels that more than double the prices in effect in 1973. Today, for a ton of wheat $150 to $160 is charged, a price, according to the estimates of certain international economic organizations (FAO, EEC, the United Nations), that will remain and even increase in the coming years. This is also a valid estimate for other agro-food products that are a part of Romanian exports: corn, sunflower oil and others.

This fact must be kept in mind by all those who produce and can export such products. For example, making available for export one million tons of wheat would provide a sure income of $150-160 million, one million tons of corn would bring approximately $140 million and 100,000 tons of sunflower oil, approximately $85 million.

The intensification of agro-food products exports, that is, the sale of the same quantities of goods, under conditions of increased efficiency must proceed from ensuring an increased production of quality that will provide the raw materials for industry at the current level of demand for consumers both in-country and abroad.

Beginning with the importance and specific role given to agriculture within the framework of the national economy, the Draft Directives of the 12th Congress call for, in the 1981-1985 Five Year Plan, investments in agriculture of 133 billion lei, which will ensure significant increases in vegetable and animal production.

In addition to the efforts in the field of production, measures are necessary in the field of industrializing the products and of selling them, both domestically and abroad. In this context, the secretary general of the party, comrade Nicolae Ceausescu, pointed out: "It is necessary for us to take all the measures to achieve the foreign trade plan under good conditions... the organization of production for export so that it corresponds to the demands of the market and, at the same time, to appropriately use this trade at the level of international prices."

In order to profit from the favorable circumstances at this time, it may be necessary to build new refrigerated storage facilities in the areas of heavy commercial traffic (ports, airports and so forth), grain silos, vegetable oil storage facilities and so forth.

The construction abroad of storage facilities for consignments of preserved vegetables, fruits and meats, also with the idea of entering the market under favorable circumstances, would likewise represent an important step on the path of increasing the efficiency of exports and of putting to better use agro-food products for export. In this context, it is opportune to have a study of the opportunities to establish certain joint sales companies which, having storage sites and stocks abroad (our own or rented) in ports and free zones (Rotterdam, Hamburg, Bremen), can ensure the sale of these products on the market under optimum conditions, bringing us closer to the current selling prices.

The consolidation of certain long-term, mutually advantageous relations with foreign partners must provide the continuity of product sales for a certain market, the understanding of local selling customs and the growth of efficiency under competitive conditions.

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INVESTMENTS IN FIXED ASSETS VIEWED

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 6 Dec 79 p 4

[Article by R. Vuksanovic]

[Text] The greater than expected increase in investments had a favorable effect on economic activity, but was a negative influence on the balance between supply and demand, which factor was manifested through scarcities of certain basic investment materials. In 9 months the total investments in fixed assets grew by 24 percent compared to the same period last year.

After a certain slowing in the preceding 2 months, in October there was again a marked increase in investments, with payments for completed projects being 35 percent higher than in the same month last year. Regarded according to investors, the investments increased the most from resources of institutions and other organizations of a noneconomic nature, of independent interest communities, banks and sociopolitical communities, while there were lesser increases for organizations of associated labor in the economy.

Including October payments, total investments in fixed assets in the first 10 months of 1979 increased by 25 percent compared to the same period last year, on the basis of current prices. Considering, however, price increases for equipment and in general for construction, the real volume of investments was up by about 12 percent. According to preliminary data, the growth trend for this form of consumption continued in November as well, so that the annual growth rate will be markedly larger than could have been anticipated.

The greater than anticipated growth in investments had a favorable impact on economic activities, particularly in those activities that produce primarily capital equipment. This growth, however, had a negative effect on the balance between supply and demand, which was manifested through scarcities of certain basic investment materials. In addition, the disturbed relationship between goods and money caused increased upward pressure on prices, bringing price increases that surpassed the anticipated level.

Investments in Fixed Assets, in million dinars

	1979	I-X 1979	X 1979 / X 1979	I-X 1979 / I-X 1978
Total Investments	34,920	245,618	125	128
Organizations of Associated Labor in the Economy	11,677	92,145	121	123
Organizations of Associated Labor Outside the Economy	3,316	24,145	160	131
Independent Interest Communities	7,049	12,974	225	179
Bank Resources	15,385	104,751	117	130
Investments through Banks	1,440	11,830	100	105
Sociopolitical Communities	586	4,521	135	118
Included in the above:				
Opstinas	281	7,238	155	130
Republics and Provinces	233	1,433	156	108
The Federation	74	752	70	110

According to investors, investments in the 10-month period increased from the resources of organizations of associated labor in the economy by 23 percent, of banks by 30 percent, of organizations of associated labor outside the economy by 31 percent, of interest communities by 79 percent, and of sociopolitical communities by 18 percent. Within the category of sociopolitical communities, investments by the federation grew by 10 percent, of republics and provinces by 8 percent, and by opstinas by 30 percent.

In accordance with its aim, the structure in 1979 showed more rapid investment growth for economic than noneconomic projects, so that the share of economic investments in total investments grew while that of noneconomic investments declined. This change was caused particularly by more intensive investments in industry, mining and agriculture. In contrast to this, noneconomic investments saw a certain slowing of the tempo of payments, although investments in housing construction grew by 42 percent, markedly greater than the growth in investments for other purposes.

In republics and provinces, payments for investments were increased in Bosnia and Herzegovina by 27 percent, in Montenegro by 14 percent, in

Croatia by 22 percent, in Macedonia by 44 percent, in Slovenia by 38 percent, in Serbia proper by 34 percent, in Kosovo by 54 percent, and in Vojvodina by 10 percent.

According to the latest reports from the Federal Statistical Institute on trends in investments in basic assets of the individual property category, the structure of total investments consists of about 80 percent investments in the public sector and 20 percent in the private sector. By applying that ratio it can be concluded that in the first 10 months of 1979, of the total investments in fixed assets of 345 billion dinars, 275 billion were in the public sector and 70 billion were from resources of individual investors.

Trends in recent years show that investments of the private sector have grown somewhat more slowly than those of the public sector. Regarded according to purpose, about 70 percent of the investments from private resources were for housing construction, and about 30 percent for all other purposes, among which the most important were production and service trades.

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MONEY IN SAVINGS, CONSUMER CREDITS, OCTOBER 1979

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 19 Dec 79 p 4

[Article by R. Vuksanovic: "High Growth of Dinar and Foreign Exchange Savings"]

[Text] The high growth trend of liquid assets of individuals which was manifested in the first 9 months of the year has continued in the fourth quarter as well. In the first 9 months these funds increased 49 billion dinars, or 15 percent, with a 10-percent increase of cash in circulation, 11 percent for dinar savings balances in banks and savings banks, 23 percent for foreign exchange savings and 15 percent for other liquid assets of individuals. According to preliminary figures for November, the high growth trend continued this month as well.

In the breakdown of total liquid assets of individuals there has been the greatest increase in foreign exchange funds in banks, which shows that the tendency of a high growth of these funds which has been manifested for a long time now has continued in 1979 as well. For the sake of illustration we should bear in mind that in 1970 these funds amounted to 3.6 billion dinars, while toward the end of 1979 they reached 140 billion, which means that over the last 10 years they have grown more than 35-fold. Thanks to this growth rate, there has been an increase in the share of foreign exchange savings in total personal savings from 16 percent in 1970 to 47 percent in 1979, and foreign exchange has attained a share of 34 percent in total liquid assets of individuals, as compared to 9 percent in 1970.

Favorable Conditions

Several factors have contributed to the high growth of foreign exchange savings. First of all, there is the favorable climate for savings in domestic banks and other financial organizations with respect to interest rates and security, especially since savings balances are guaranteed by the Yugoslav National Bank in the name of the Federation. In addition, the banks have themselves made a considerable contribution through their activity to attract the foreign exchange both here at home and abroad where they are temporarily employed. Finally, the growth of foreign exchange savings is in large part the result of incentives to strengthen this form of savings.

Liquid Assets of Individuals, in millions of dinars

	As of 31 Oct 79	Changes In Oct 79	Changes Jan-Oct 79	Oct 79 / Dec 78	Oct 79 / Oct 78
Total liquid assets	375,229	319	48,643	115	130
Cash	82,754	-1,747	7,797	110	120
Dinar savings	139,243	116	14,034	111	126
Foreign exchange savings	131,031	1,698	24,328	123	138
Other funds	22,201	252	2,484	113	148

Dinar savings balances in banks had up through October 1979 increased 11 percent over December and 26 percent over the same month of last year, which shows that this form of saving is also showing a high growth; we note in the regional distribution that the largest volume of dinar savings balances is in Croatia, which is followed by Serbia proper, Slovenia, Macedonia, Vojvodina, Bosnia-Hercegovina, Montenegro and Kosovo. The average balance per depositor is highest in Macedonia and lowest in Bosnia-Hercegovina. Montenegro, Croatia, Slovenia and Kosovo are also above the Yugoslav average, while Serbia proper, Bosnia-Hercegovina and Vojvodina are below that average.

However, the per capita savings balance is a considerably more important indicator of savings, since the level of savings is not reflected by the number of passbooks, but by the balances they represent. In Yugoslavia in the first half of 1979 the per capita savings balance was 5,370 dinars. In Slovenia this average is 13,287 dinars, and Croatia with 6,294 dinars, Macedonia with 6,617 dinars and Vojvodina with 6,579 dinars are also above the Yugoslav average, while Serbia proper with 5,105 dinars, Montenegro with 3,371 dinars, Bosnia-Hercegovina with 2,663 dinars and Kosovo with 1,107 dinars are below that average.

Sight Accounts Most Important

The composition of the liquid assets of individuals in banks is not as favorable as it might be with respect to maturity, since the deposits are mostly at short term. About 86 percent of these funds are in sight accounts and may be withdrawn at any time, and only 14 percent have been placed for periods than longer 1 year; 2 percent are deposits earmarked for housing construction and 12 percent are savings which are not earmarked. Because of this proportional breakdown, most of these funds can be withdrawn at any time and figure as purchasing power on the market. To be sure, no appreciable outflow of liquid assets from the banks has so far occurred, nor can it occur under stable economic conditions. On the contrary, the fact is that savings balances are growing steadily in our country, since individuals have no reservation about depositing money in domestic banks and other financial organizations, since the security and secrecy of their balances are fully assured.

By contrast with the unsatisfactory composition of dinar savings in banks with respect to maturity, the composition of foreign exchange funds is considerably more favorable, since deposits made for more than 1 year have a share of 52 percent in total foreign exchange savings in banks. This favorable composition of foreign exchange savings is the result of the activity of the banks, which has been manifested in giving preference in the use of consumer credits for housing construction and durable consumer goods (furniture, automobiles, machines and household appliances) to savers who put their money in time deposits. The higher rate of interest which the banks are paying on time deposits has also had a considerable impact.

More Moderate Growth of Consumer Credits

In the opposite direction from the high growth of bank savings of individuals, the growth of consumer credits has been considerably more moderate. In the first 9 months of 1979 these credits increased 3.3 billion dinars, or 7 percent, which is half of the growth rate over the same period of last year. This is because of more stringent conditions for extension of consumer credits adopted in the first half of the year.

When we examine the relation between bank balances of individuals and credits used, we note that the level of self-financing by individuals is very high. Credits extended to individuals (consumer credits and long-term credits for housing construction) represent 35 percent of the total liquid assets of individuals in banks, which shows in balance-sheet terms that the funds which individuals are placing in banks are 2.5-fold larger than the credits they are taking. This circumstance makes it possible for the banks to commit sizable liquid assets of individuals to the financing of priority purposes both in the economy and outside it. At the same time this shows that the liquid assets of individuals are becoming an increasingly influential source of funds for financing economic development and for improving public services outside the economy.

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TRADE WITH SOCIALIST COUNTRIES IN FIRST 10 MONTHS, 1979

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 18 Dec 79 p 5

[Article by Andja Petrovic: "Progress, But It Could Be Faster and More Harmonious"]

[Text] In the group of European socialist countries which are members of CEMA the most favorable trade pattern is with Hungary and Poland. The Yugoslav deficit from last year has been reduced in trade with all. The largest volume of trade is with the USSR.

This year our country's commodity trade with foreign countries has not yielded favorable results for the balance of payments, since imports exceeded the anticipated figures and exports did not reach them. By and large these statements apply with shades of difference to all the groups of countries with which Yugoslavia carries on economic cooperation, including the group of socialist countries. Though commodity trade with these countries is in considerably larger volume than last year, its structure is not altogether favorable and has contributed to the well-known total results for 1979, which is nearing an end.

The overall figures on commodity trade for 9.5 months--from 1 January to 15 November 1979--show that total imports from the socialist countries amounted to about 51,746 million dinars, which is 16 percent more than in the same period of 1978. Exports attained 40,563 million dinars, increasing 15 percent over last year. Imports from those socialist countries with which exchange is done on a convertible basis were somewhat smaller than last year (index number 97), but there was a considerable growth from countries with which cooperation is on a bilateral basis (index number 127). The trend of exports was the reverse in that exports grew faster to countries with the convertible method of settlement (index number 136), last year's deficit being reduced, and slower to countries with bilateral payments (index number 108).

The total deficit in commodity trade with the socialist countries was 11,183 million dinars over the period under review, which is 35 percent more than last year. A favorable note is that the trade deficit with the socialist countries using convertible settlement (index number 51) was cut in half, but it greatly increased in trade with countries using bilateral payment (index number 287).

Alongside this there are the indicators of coverage of imports by exports: for the entire group of socialist countries the level of coverage of imports by exports was 75.4 percent (last year it was 78.5 percent), the level being the same for the groups with convertible and bilateral payment, while last year the imbalance with the convertible area was considerably smaller (level of coverage 94 percent) than with the bilateral group (level of coverage 59.1 percent).

There are, of course, differences in this year's behavior of imports and exports with particular countries, and it is best to present them individually. At present we have the figures for the first 10 months. In this issue we give the results on commodity trade with the European countries which are members of CEMA.

Bulgaria

Commodity lists for 1979 called for Yugoslavia to export goods worth $129.2 million, while Bulgaria's exports would be $123.6 million. In 10 months Yugoslav exports amounted to $59.8 million and Bulgarian exports $101.9 million, which is 46.1 and 86.2 percent of the commodity lists, respectively, representing increases of 69.6 percent for Yugoslav exports and 35.8 percent for Bulgarian exports over the first 10 months of 1978. The balance is, nevertheless, very negative, 44.1 percent for Yugoslav exporters, as against last year's 41.1 percent. The coverage of imports by exports was 57.6 percent, which is considerably better than last year's 46.1 percent. It is expected that exports will reach $91 million and imports $122 million by the end of the year. If we add to exports our credit-financed transaction and services in which our country has a surplus, exchange is mainly balanced and is close to the anticipated total volume of $253.1 million.

Czechoslovakia

This year's commodity trade will exceed $1 billion for the first time; the commodity lists anticipated $1,049.3 million: $520.2 million of Yugoslav exports and $519.1 million of Czechoslovak exports. The results for the first 10 months are considerably better than those for last year: commodity exports amounted to $260.5 million and imports $394.7 million, which shows that commodity trade is rather uneven. The deficit on the Yugoslav side is $134.2 million, as against last year's $127.6 million.

Imports were covered at a level of 65.5 percent, as against last year's 59.8 percent. Exports will reach about $410 million and imports $560 million by the end of the year, and the $50 million credit to facilitate trade comes close to these two figures.

Hungary

Instead of the many problems manifested last year in commodity trade with Hungary, this year's transactions have brought the desired stabilization of trade and achievement of the total volume of trade, thanks in part to the marked increase in Yugoslav exports (50.2 percent over the 10 months) and a slower growth of Hungarian exports. The result is that last year's deficit of $151.7 million on the Yugoslav side has been reduced this year to about $60 million (52.6 percent in 10 months), which is very gratifying as a phenomenon, though not in the amounts involved.

Trade over the first 10 months amounted to $360.4 million, $144 million in our exports and $21[illegible] million in Hungarian exports. Amounts of about $190 million and $290 million of Yugoslav and Hungarian exports, respectively, are anticipated at the end of the year.

German Democratic Republic

The lag in total commodity trade over the first 10 months by comparison with what was envisaged by the commodity lists for 1979 is especially manifested in the smaller Yugoslav exports, which amount to $[illegible] million or 57.6 percent of exports envisaged by the commodity lists. Exports from the GDR proceeded considerably faster, and at $201.7 million represent 73.1 percent of the commodity list, or 17 percent more than in 10 months of 1978 (Yugoslav exports increased 11.1 percent). The deficit increased $74.4 million (last year it was $27.6 million), and the coverage of imports by exports was 73.5 percent, as compared to last year's 89.1 percent.

The situation will certainly improve by the end of the year, so that the total volume of trade, as estimated, should reach $580 million: $[illegible] million of Yugoslav exports and $320 million of exports from the GDR. If we include credit to facilitate trade and certain other considerations customary in this type of business and which increase the volume of our exports, the difference will be smaller, but it will still be appreciable.

Poland

The favorable trend of commodity trade with Poland is especially manifested in the reduction of the imbalance, which last year was quite pronounced. The total volume of trade will certainly be less than anticipated and is expected to be about $[illegible] million (as against the $790 million anticipated by the commodity lists). In 10 months Yugoslavia exported goods worth $205.5 million (a growth of 11.5 percent), while Poland had exports worth $232.9 million (a growth of 1.7 percent). The deficit on the Yugoslav side is about $[illegible] million ($73.8 million last year).

The coverage of imports by exports was 88.2 percent, and is expected to be [illegible] percent at the end of the year (87.9 percent last year), which is the most favorable coverage for this group of countries. Nevertheless, there-will be a trade deficit (about $35 million), but it will be considerably smaller than last year, which is a good beginning for achieving equilibrium next year.

Romania

Commodity trade with this country has not managed to overcome the difficulties which have lasted for years, though there has been growth over last year. In 10 months we exported commodities worth $108.3 million to Romania and imported goods worth $157 million from Romania ($88.3 million and $158.5 million, respectively, in 1978). Consequently, a step has been taken toward balance (exports rose 22.7 percent and imports decreased 0.9 percent), but there is still a deficit on the Yugoslav side, though considerably smaller than last year: $48.7 million as compared to $70.2 million. Coverage of imports by exports in the first 10 months of this year was 69 percent, while last year it was 55.7 percent.

The progress in overall trade is obvious and the improvement can be taken as the basis for the end of the 5-year period and for realistic planning of trade in 1980 and the coming 5-year period. Though the planned value and volume will not be attained, commodity trade with Romania will be larger this year than last and will be more uniformly distributed between the parties.

Soviet Union

The largest volume of commodity trade is with the Soviet Union, and the interest in the results is for that reason keenest, since this country holds first place in Yugoslavia's overall foreign trade.

This year's 10-month trade exceeded last year's: Yugoslav exports reached $1,123 million ($1,097 million last year) for a growth of 2.4 percent. Soviet exports were $1,414 million (last year $1,117) for a growth of 26.5 percent. The nominal difference, then, is about $291 million ($20 million last year). There are realistic conditions for the ratio between exports and imports to improve considerably by the end of the year, and probably they will be brought into adjustment. In any case this year's trade is developing successfully and will be a good base for successful completion of the entire 5-year period of economic cooperation.

If we examine all the figures on commodity trade with the countries mentioned here, we can conclude that the trends are mixed--from markedly favorable to unfavorable. On the whole it appears that the relative share of the group of socialist countries in Yugoslav foreign trade has not been disturbed, though even in this respect there are undesirable departures in certain sectors. We are not able here to go into any detailed assessments and examinations, but we can say that our organizations of associated labor should be still more responsible, regular and punctual in delivering certain products for which there are customers (mainly in nonferrous metallurgy, the chemical industry and even in ferrous metallurgy). Some products, those which are offered and those not offered at present but they do exist, must be close in their price to the prices of foreign partners, since, they say, these prices are considerably higher than what are referred to as world prices. Finally, the observation is continually made that the domestic market is offering more favorable conditions for the sale of certain products which could be exported.

In any case this year's experience ought to serve organizations of associated labor and all entities involved in some way in economic cooperation and commodity trade with the countries referred to here as an indication of how to do better business in 1980 so as to contribute to the country's more favorable trade balance and a better place for us in the international division of labor. The Yugoslav economy is capable of that in terms of its level of development and its equipment.

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TRADE WITH SOCIALIST COUNTRIES

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 25 Dec 79 p 5

[Article by Andja Petrovic: "Good Results--Impetus for Broader Cooperation"]

> [Text] In PRIVREDNI PREGLED, No 6692, dated 18 December, we published an article under the heading "Progress Which Could Be Faster and More Balanced" in which data on the results of our country's commodity trade with the socialist countries looked especially at the East European CEMA member countries. In order to supplement this economic picture of commodity trade with the group of socialist countries, we today give figures for Albania, the GDR, Korea, China, Cuba and Mongolia.

If we take this group of countries as a whole, regardless of whether they belong to international groupings--we can say that there have been no changes in the earlier and most recent judgments that economic cooperation and commodity trade in particular can develop successfully with them in a framework of mutual desire to expand international economic relations and participation in the international division of labor with the purpose of the maximum use of the capabilities and conditions of each respective country.

Albania

Commodity trade with this neighboring country has advanced considerably over last year and attained a volume of $48.6 million in the first 9 months, while the commodity lists for 1979 anticipated $53.6 million. This means that 90.6 percent has already been accounted for in that time, and deliveries exceeding $80 million have been contracted for. Trade is balanced, the Albanian side particularly insists on that, and this is also suitable to the Yugoslav side.

It is expected that the results by the end of the year will be about $60 million, but the commodity lists for 1980 already anticipate a volume of $78.6 million.

Democratic People's Republic of Korea

Establishment of broader economic relations with North Korea than previously yielded encouraging results in 1978. Several transactions have been concluded this year for deliveries on both sides; most of it was done, and a minor portion was carried over to 1979. According to the most recent figures we have received, in 11 months of this year our country exported goods valued at $3.17 million, while Korean exports were $7.58 million. The volume of commodity trade is smaller than at the same time in 1978, when Yugoslav exports amounted to $4,142 million, and Korean exports $10,425 million. Deliveries this year are being made on the basis of contracts concluded previously. It is expected that new talks will take place between business partners in early 1980 and new transactions will be concluded.

Several fields were established in previous talks for exchange and cooperation. Deliveries made to date from Yugoslavia consist mostly of certain motors (Rade Koncar) and turbines, heavy rollers (Zenica), manufactured fertilizers and pesticides. The principal items in Korean exports to our country are rosin, frozen fish, raw hides and furs and certain electrical appliances.

China

This year's experience has shown that commodity trade with this country is not going as easily as it perhaps appeared previously, and that various difficulties must be overcome which have prevented the anticipated volume of trade from being achieved. In 10 months of 1977 Yugoslav exports reached $35 million, and Chinese exports $48 million. Our exports were 67 percent higher than last year at this same time, but imports are down 30 percent, though still greater than exports. When the inflow of money for the upcoming delivery of ships and certain services is added to commodity deliveries, the value of Yugoslav exports increases considerably, and the total volume of trade was $145 million over the 10 months.

According to estimates, commodity for the entire year will come close to the figure of $200 million, provided certain transactions which have been negotiated are concluded. These figures will help in adopting commodity lists for 1980 that are based on the real capabilities of the two sides, and trade negotiations are now under way in the Joint Commission for Commodity Trade.

Cuba

Commodity trade with Cuba has pursued two lines this year, and we can say that it has both advanced and retreated. It has advanced in that Yugoslav exports for 11 months of 1978 were appreciably greater at $5,442 million, and over the same time this year they stand at $7,625 million, which means an increase of about 40 percent. Cuban exports have followed a different pattern since our country has ceased to import sugar, and not enough other goods have been found to replace it. Nevertheless, the first steps have been taken, and they should be reinforced. Thus in 11 months of this year products valued at $4,946 million have been imported from Cuba, which is 80 percent less than last year ($24,751 million).

At the last plenary meeting of the section of the Yugoslav Economic Chamber for Promotion of Economic Relations With Cuba the delegates of organizations of associated labor examined in detail the possibilities of augmenting commodity trade and resolved to plan an increase of about $30 million in our imports from Cuba in 1980 (coffee, rice, tropical fruit, concentrated livestock feed, molasses, honey, nickel), so that exports might rise by the same amount, since there are goods in demand on the Cuban market (ships, floating docks, transformers, electrical equipment, tires, pharmaceutical and other chemical products, prefabricated housing factories, and so on).

Mongolia

The volume of this year's commodity trade with Mongolia has experienced a manifold increase over 1978, since transactions concluded in the first 11 months cover everything anticipated for 1979, and most has already been accomplished. Of the $2.3-million total, Yugoslav exports are anticipated at $1.1 million and Mongolian exports at $1.2 million. Deliveries of $1.3 million in both directions were concluded outside the protocol, and these will be made by the end of this year and in early 1980.

In 11 months $600,000 worth of goods were exported to Mongolia from Yugoslavia and goods valued at $1 million imported. Acceptance of footwear from our country was late, but the contracts will be carried out. Thus the volume of trade anticipated by the long-term agreement for 1979 will be exceeded by 17 percent.

In the first months of 1978 there will be a meeting of the two chairmen of the joint committee, and they will set the time for holding the meeting in the second half of the year. The Mongolian side is expected at that time to state in detail its proposal that the $7-million credit which Yugoslavia granted in 1968 to build a hotel in Ulan Bator be used to build a slaughterhouse and plant for processing horsemeat, the credit to be repaid with the products of the slaughterhouse. This would not only increase the volume of trade, but would make trade more diversified.

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YUGOSLAVIA

UDC 621.311:662.66

POSSIBILITIES OF MORE RATIONAL USE OF COAL STUDIED

Belgrade ELEKTROPRIVREDA in Serbo-Croatian No 7-9, 1979 pp 206-212

[Article by Vojin Grkovic, M.A., graduate mechanical engineer, Work Community of Kolubara B Thermal Electric Power Plant in Veliki Crljeni of Kolubara Mining, Power and Industrial Combine, Lazarevac: "Potential for Optimum Use of a Domestic Source of Energy, Coal, by Building Power and Heating Plants Outside Cities"]

[Text] The author examines in the article all the factors which have a bearing on the conception and design of a system for supplying thermal energy to cities. Certain specific conditions are worked out in that context relevant to our situation, such as: available sources of raw materials, heat consumption, climatic conditions, characteristics of thermal power plant equipment, and so on, maximum reliability in heat supply along with minimum environmental pollution being taken as the principal criteria in defining and planning such systems.

1. Introduction

It is a difficult and complicated task to design and plan a system for supplying heat to cities. It must necessarily be undertaken not only from the technical and economic standpoint, but also from the sociological standpoint and the standpoints of urban planning and satisfaction of broader public interests. The principal factors serving as points of departure are the available sources of raw materials, heat consumption, climatic conditions, equipment characteristics, and so on. The principal criteria for the definition and planning of such systems are maximum reliability of thermal energy supply along with minimum environmental pollution and minimum heating costs.

2. Raw Materials Base

Coal has a share of 85 percent in Yugoslavia's total energy potential, and the share of crude petroleum and natural gas is 15 percent. Low-calorie coal, lignite, represents 82 percent of the total coal potential or about 70 percent of Yugoslavia's total energy potential. The remaining 18 or 15 percent, respectively, consists of better-quality coals [1].

These figures show clearly that coal is our principle source of energy and that we must rely on coal in planning the satisfaction of all energy needs, the needs of thermal energy to heat the cities first of all. This is especially so because of the present and anticipated growth of heat consumption in our cities, which very soon will raise energy consumption to a considerably higher level at a time when the needs for fuel will be considerably greater than at the present.

Urban areas can be supplied with thermal energy for heating from sources and installations designed to produce only thermal energy (boiler plants--for individual buildings or areas) or from installations for combined production of thermal energy and electric power.

When cities have sizable and dense consumption of heat, it is more advantageous to use heat-and-power plants in which production of thermal energy and electric power is combined as the source of thermal energy. That is, when only electric power is produced in thermal electric power plants, the level of utilization of the energy contained in the fuel is about 34 percent, calculated from the point where the fuel is delivered to the point where the power plant is connected to the high-voltage network; in combined production of thermal energy and electric power in heat-and-power plants the level of utilization of the energy contained in the fuel is about 60 percent. The fuel savings achieved through combined production of thermal energy and electric power are obvious. They are shown graphically in Figure 1.

We see from the figure that in this case the heat for the heating system is mostly obtained from the wasted heat which must be discharged into the environment as a heat loss when the condensing thermal electric power plant is used solely for generating electric power. Better fuel utilization means that at lower fuel consumption we will satisfy the same level of energy needs, and aside from cheaper energy, that also means less pollution of the environment.

Heat-and-power plants are usually located within the area being heated, sometimes close and sometimes not so close to the actual center of consumption. This solution is adopted in order to reduce the costs of transporting the heat from its source to the actual consumers (house installations) to the absolute minimum.

Yet this is very disadvantageous from the standpoint of the possibility of using coal, especially lignite, as the fuel to fire these installations. It is virtually impossible within an urban complex to arrive at an advantageous solution for delivery and storage of coal and for dumping the ash. Pollution of the air with the products of combustion is a separate and difficult problem, especially in large cities, where the air is already polluted with exhaust gases and where usually there is not sufficient green area for natural regeneration of the oxygen. In addition, such facilities would break up the homogeneity of urban-planning and architectural entities, and their location within the city limits would not be advantageous in that aspect either.

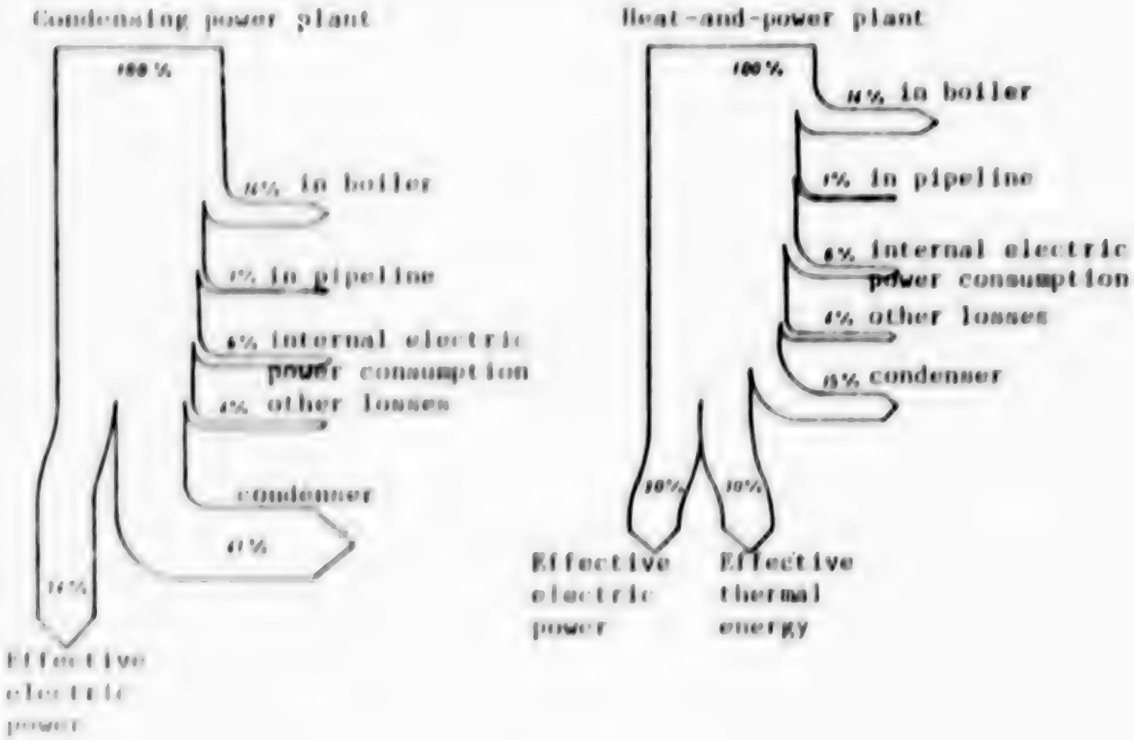

Figure 1

Given this situation, it would be simpler to use a gaseous or even liquid fuel. However, the fact is that Yugoslavia has a shortage of these fuels and would have to import to provide the amounts necessary, and that makes it indispensable to seek some other acceptable solution which would make it possible for coal to be used as a raw material for obtaining thermal energy without harmful consequences to the city itself.

Were a heat-and-power plant to be located outside the city, i.e., outside the heating district, a cheaper domestic source of energy--coal--could be used, since this would eliminate all the problems we have mentioned in the case of coal's use in heat-and-power plants located within the urban area. But in this case the costs of transporting the heat from the heat-and-power plant to the consumers would be higher because of higher investments, higher heat losses and greater hot-water pumping capacity. Obviously there is some optimum distance of an extraurban heat-and-power plant which can be determined solely through careful technical-and-economic comparisons of the magnitude of the influence of each of these parameters in each individual case.

The annual costs of extramural heating depend in large part on the density of heat consumption (Figure 2). For every increase in its density by 1 MW per square kilometer, the costs drop 4-5 percent, and the costs of distributing the heat, taken separately, decrease all of 7-8 percent [2]. In the case of high densities of heat consumption this cost pattern leaves room for the costs of the main heating line from the extraurban heat-and-power plant to the city, i.e., to the district where the heat is consumed, to be compensated in part by the lower costs of distributing the heat within the urban area.

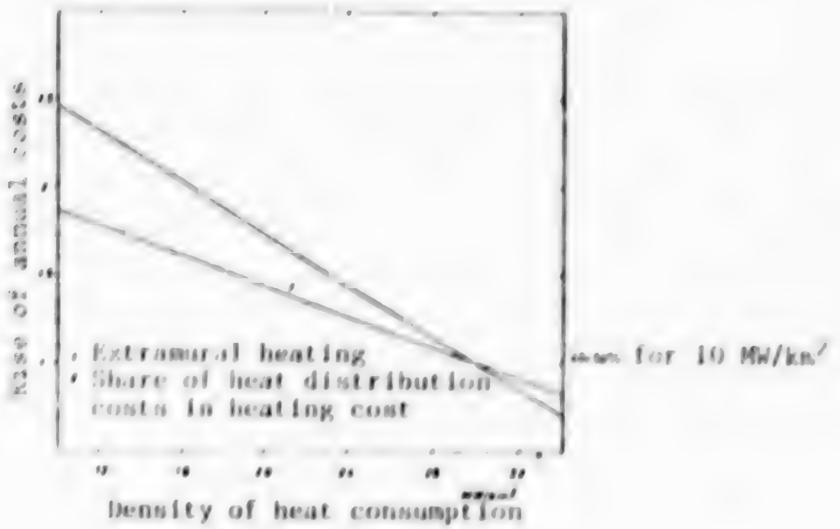

Figure 2

If construction of a thermal electric power plant is already anticipated in the vicinity of some city, then to build instead a heat-and-power plant for combined production of electric power and thermal energy would afford additional savings, since the capital to build the source of electric power would actually be spent in part to build a source of thermal energy as well.

In areas where several cities and settlements are located within a relatively small distance, there is a possibility of their all being connected to one another by a single trunk heat pipeline to form a unified heating system. One or two heat-and-power plants outside settlements would be used for the base load, and peak boiler plants within the settlements themselves would be used to handle the peak heat load.

Use of an extraurban heat-and-power plant to heat cities would in practice signify the closing down of a large number of small boiler installations in the city. Only one or at most a few large steam-generating plants would assume the role of covering the peak portion of the heat load; they would, that is, operate only a few hundred hours annually. This would represent a sizable reduction of emission of harmful products of combustion in the urban area, whose air already carries a heavy burden of other pollutants.

With all this in mind we see that there is a point in making a more detailed examination and analysis of construction of an extraurban heat-and-power plant fired by solid fuel, first from the technical standpoint and then from the economic standpoint as well.

3. Extraurban Solid-Fuel Heat-and-Power Plant

The generation of electric power should be primary in the extraurban heat-and-power plant for combined production of electric power and thermal energy. The size, that is the power-generating capacity, of the heat-and-power plant should be determined according to the requirements of the electric power system, but it should be so conceived as to provide reliable supply of electric power and thermal energy to the system. For that reason the conception of extraurban heat-and-power plants must differ essentially from the conception of previous heating and power plants. Since our electric power industry is making the transition to 500- and 600-MW generating units, it is interesting to examine the conception of an extraurban lignite-fired heat-and-power plant for power capacities of this magnitude. In this case we can no longer adopt the conception that this amount of power would be provided in the condensing mode and also in the heating system mode and that the size of the steam-generating unit would depend on consumption of steam in the heating system mode of the turbine; rather its size must depend on consumption of steam in the condensing mode. Less electric power would, then, be obtained at the terminals of the generator during operation in the heating mode.

In this conception the most important question is construction of the appropriate turbine, since all the other principal equipment components remain the same with respect to capacity and parameters as they would be in a condensing power plant of the same power capacity, which means that the availability of the heat-and-power plant could remain virtually the same as the availability of the condensing thermal electric power plant. It is, of course, easier to derive the design of the heating turbine from the condensing turbine, since then most of the components of the condensing turbine could be used, which incidentally has always been the case up to now. A turbine developed in this fashion would no longer be able to furnish the entire amount of heat at such a low temperature level as could the conventional heating turbine. However, this is no longer even necessary, since we in any case need a higher temperature of the water as it leaves the extraurban heat-and-power plant.

This conception of a heat-and-power plant for combined production of electric power and thermal energy with a capacity of 500-600 MW and for location outside cities, though presented in the briefest possible outlines, is advantageous both because of its simplicity and because all the equipment that will be installed in it has already been tested under actual operating conditions in condensing power plants. As for the turbine, it would differ in design from the corresponding condensing turbine only in the medium- and low-pressure portions. In principle it is possible to make greater or lesser changes in the design of the medium- and low-pressure sections depending on the amount of steam which one wants to take off for heating purposes and also on the desired water temperature as it leaves the turbine.

If instead of a condensing thermal electric power plant we want to build a heat-and-power plant for combined production of thermal energy and electric power, we would only have to purchase a different turbine and additional equipment consisting of the following elements: heating system heaters, steam lines from the turbine to the heaters and pipelines for the condensate; this would mean an increase in the area of the main generating facility from approximately 1.1 to 1.4 square meters per megawatt. Figure 3 gives a diagram of the heating system with an extraurban heat-and-power plant, the transport system, the peak boiler installation and delivery of the heat to consumers in the secondary network. The base portion of the heat load is covered, then, by exhausting steam from the turbine and by transferring its heat to hot water in the heating system exchangers in the heating station, which is also a part of the heat-and-power plant. The heat is transported by the movement of hot water through the pipeline. The water is pumped by pumping stations. In the heating district itself the secondary network distributes the heat further to the consumers. It is also in this section that the water is reheated in the peak boiler installation when this is necessary to cover the peaks of the heat load.

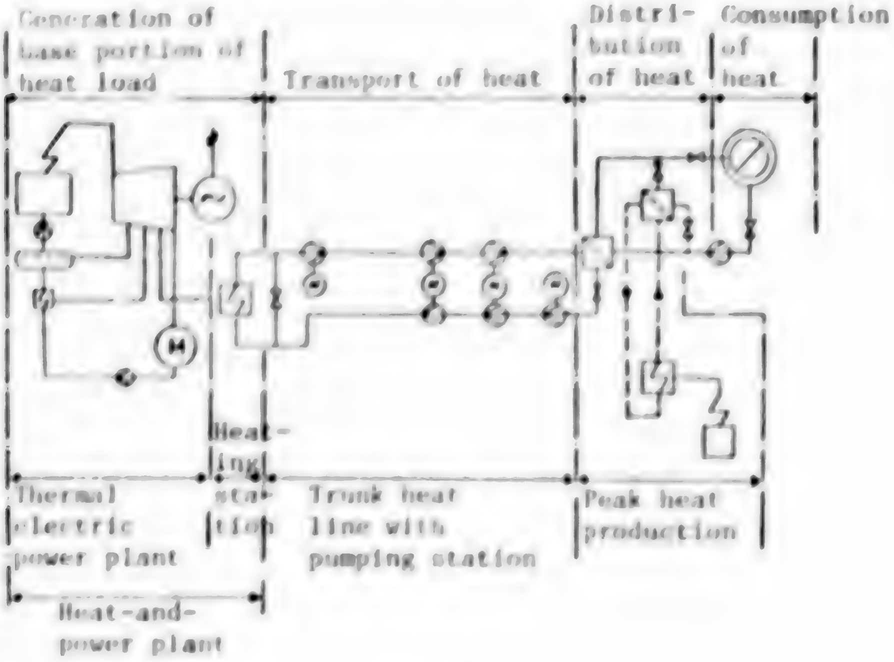

Figure 3

Because of the relatively small differences in equipment there will not be great differences in capital costs between the heat-and-power plant and the condensing thermal electric power plant. The reduction of electric power at the terminals of the generator, which occurs during operation in the heating mode, must be made up from other source of electric power. In determining the thermal capacity or heat rate of extraurban heat-and-power plants the heat load factor is essential; this is the ratio of the base heat load [to the maximum heat load--translator's insertion], which is satisfied from the peak boiler installations in the city as well. The higher the load factor, the larger the proportion of thermal energy furnished from the extraurban heat-and-power plant, and that means from the domestic energy source--coal. Yet on the other hand the higher the load factor, the larger the investments in the transport system from the heat-and-power plant to the peak boiler installations in the city, but also the larger the number of hours of operation in the heating mode every year. In designing such systems, then, one should make a detailed technical-and-economic analysis and select the load factor on that basis.

4. Possibility of Obtaining Thermal Energy From the Kolubara B Thermal Electric Power Plant

The mines of the Kolubara REIK [Mining, Power and Industrial Combine], whose coal reserves are estimated at about 4.5 billion tons, are located at an air distance of 36 km (43 km cross-country) south of Dimitrije Tucovic Square in Belgrade. The plan for construction of thermal power facilities of the Consolidated Electric Power Company in Belgrade anticipates that Phase I of the Kolubara B TE [thermal electric power plant] (installed capacity 2 x 500 or 2 x 600 MW) will be built before 1985.

Certain preliminary studies have shown that about 465 MW (400 gigacalories per hour) of thermal energy for heating purposes could be obtained from each 600-MW power generating unit. In view of the estimated growth of consumption for heating purposes to 1,500 gigacalories per hour in Belgrade by 1985 and to 630 gigacalories per hour to meet its base load at a load factor of 0.42, the first two units of the Kolubara B TE could cover that load with about 170 gigacalories per hour to spare. Should one unit go off line, the other unit could cover 63 percent of the base heat load, that is, the system would then operate at a load factory of 0.27. The remainder of the heat load could be met from the peak boiler installations in the city. At a thermal capacity of 465 MW of thermal energy one turbine could generate about 510 MW of electric power. Since the heat would be obtained from two units, i.e., each unit would have a load of about 315 gigacalories per hour, each of the units would operate under a power load of about 545 MW, but this does not include internal consumption of electric power to meet the needs of the thermal electric power plant itself. The diameter of the pipeline to carry the heat might be 800 mm.

5. Similar Projects in the World

Construction of heating systems which are to link up several settlements in which the base heat load would be furnished from an extraurban heat-and-power plant had already begun in some countries in the world.

In West Germany work is under way to build a trunk heat pipeline over a total length of 56.4 km which will link up five settlements; its diameter is 910 mm. This is a part of a larger heating system called the "Ruhr Schiene." The West German government has already appropriated 108 million marks to finance this project. It has also issued a recommendation that all thermal power plants built in future have turbines designed in advance for combined production of thermal energy and electric power so that when the need arises they can be converted to operation in the heating mode as a combined source of electric power and thermal energy by a simple reconstruction and addition of the difference in equipment.

There are plans in Sweden to build a large heating system which would link together four cities and supply them with heat: Malmo, Lund, Hälsingborg and Landskrona, which are located within a radius of 20 km. The heat for heating these cities would be obtained from the "Barsebek" Nuclear Power Plant. About 600 million Swedish kronas are to be invested in this system.

6. Possibility of Using Gas Obtained From Gasification of Coal To Heat Settlements

Since coal represents by far the largest portion of the potential of world energy reserves, many countries in the world are working intensively on programs to obtain liquid or gaseous fuel from it.

Of the large number of gasification processes to transform coal into gaseous fuel which are today being worked on, only three are commercially available: Winkler, Koperstotsek and Lurgi. In addition to the investment in equipment, in order to obtain gas from coal one must also invest a certain amount of energy so that the product obtained, gas, has a higher value both from the general energy standpoint (higher energy level) and also in terms of the monetary amount of that value. It is estimated, for example, that at a coal price of 90 dinars per gigacalorie the price of gas would be about 190 dinars per gigacalorie.

On the other hand gas is very cheap to transport, it can also be stockpiled cheaply in tanks, and it is also advantageous from the standpoint of its impact on the environment. For all these reasons the use of gas as a fuel affords great flexibility in selection of a site for the installation where it is to be used. We also have greater flexibility with respect to selection of equipment for such installations, since in addition to steam turbines we could also use installations with gas turbines and installations combining steam and gas turbines.

Gas turbines have been greatly perfected since the first gas turbines were installed in the New Belgrade Heat-and-Power Plant. Today's modern gas turbines, which are referred to as "heavy," achieve an availability of 98 percent, and necessary downtime, computed according to the EEI formula, can be reduced to about 0.3 percent. In the world today more than 100 gas turbines have been operating more than 100,000 hours, so that in this respect also they are practically on a par with steam turbines.

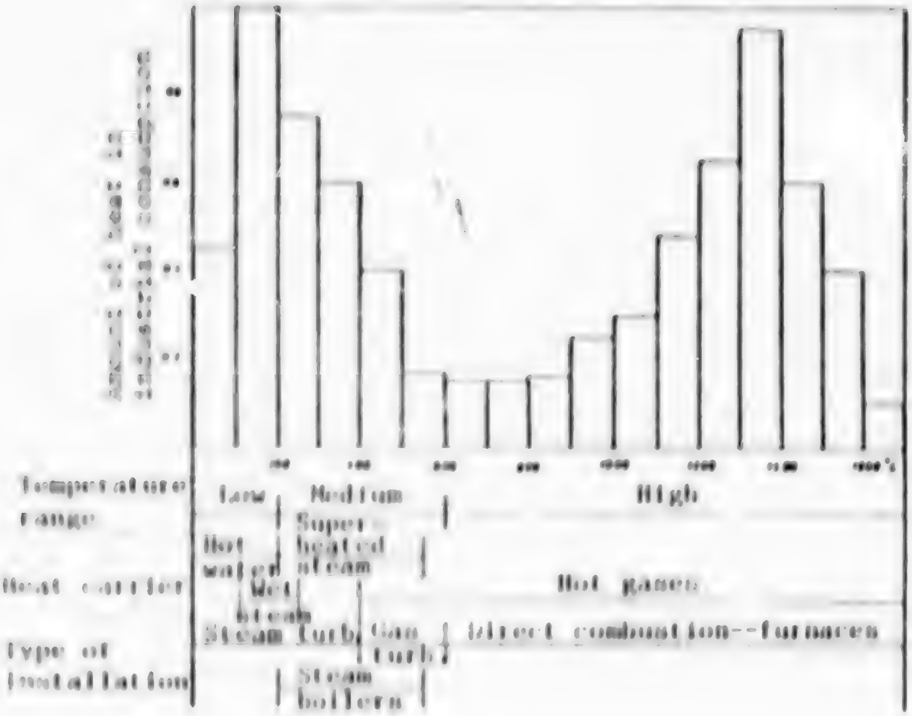

Figure 4

The temperatures of gases as they leave the gas turbine usually range between 450 and 550° C. This is suitable for generating steam or hot water in boilers, utilizers, hooked in after the turbine, or on the other hand in various industrial processes.

There are several different design concepts of installations for obtaining thermal energy from gas turbines, of which two are the most interesting. The first has a hot water boiler after the gas turbine, and the other has a steam boiler and extraction turbine, which may be of the back-pressure type or with one extraction of steam for the heating system and sliding pressure at the outlet from the turbine (which in practice means that in this case the water would be heated for the heating system in two stages). An analysis has been made of a specific example [1], and it was shown that the total level of utilization of an installation with gas turbine and steam back-pressure turbine goes as high as 70 percent.

Because of the relatively high temperature of the gases leaving gas turbines, they are much more suited for use in the processing industry, where heat is needed at a temperature level of 450-550° C, than in installations to generate heat for a heating system. Their advantage is particularly manifested where the gas can be taken as a heat carrier instead of steam. This is the case, for example, in the paper industry (to heat the rollers of paper machines), metallurgy (to heat the hot-blast stoves of blast furnaces), and so on. This use of gas turbines is more advantageous not only in terms of thermodynamics (there are no losses of the system's operability because of degradation of the temperature level of the working fluid), but also in economic terms.

Gas is used not only as a fuel for propulsion in the installations of steam, gas or combined steam and gas turbines, but also as a valuable raw material in chemistry: for example, in the production of ammonia, methanol, and so on. It is here in fact that it is best used as a high-quality and chemically pure fuel, while its use [for heating--translator's insertion] represents a degradation of gas as an energy source in thermodynamic and economic terms because of the low temperature at which the heat is used.

Figure 6 shows the approximate distribution of industrial consumers of heat as a function of the temperature level at which it is used. We note three ranges. The low temperature range up to about 200° C, where the heat carrier is hot water. This is the range of heat consumption for heating and of a portion of the food manufacturing industry and agriculture.

The medium temperature range goes from about 200 to about 600° C. The heat carrier in this range may be wet steam (up to 250° C), superheated steam (from 250 to 550° C) and hot gases from gas turbines (in the range from 400 to 600° C).

The high temperature range is over 600° C, where only direct combustion of the fuel comes into consideration. Since in this temperature range the fuel may be gas, petroleum or coke, all of them, that is, quality fuels, the option is to orient gas consumption in this direction, since then domestic fuels, that is, gas from coal, can be put to its best use in an area where expensive imported fuels are used.

7. Conclusion

Thermal energy for heating can be supplied to urban areas from sources and installations for production of thermal energy alone (boiler installations--individual or district) or from installations for combined production of thermal energy and electric power; the latter is much more advantageous from the standpoint of energy use and environmental protection.

Installations for combined production of thermal energy and electric power may even be located outside the settlement. It is possible to link together several settlements and several installations with a single trenk heat transmission line. By building extraurban heating plants it is possible to use a domestic energy source--coal--to heat cities. This would be a source of considerable savings, since of the three sectors of energy consumption--heating, process heat and illumination and motive power, heating has the largest individual share. This wouls considerably reduce imports of scarce energy sources, petroleum or gas, and that means that we would be less dependent on imported energy.

Coal represents 85 percent of our total energy potential, which suggests that coal is our energy base and that greater consumption of energy from coal should be encouraged at the expense of other energy sources, which anyway we do not have in sufficient amounts.

Coal may also be used to heat cities indirectly if it is first transformed into gas. Gasification processes are still in the development phase, which is affecting the price of gas. In this case we would have a greater flexibility in locating installations, and it would be possible to use installations consisting of steam, gas and combined steam and gas turbines. However, as a high-quality fuel gas would be used more advantageously in industry and the heavy chemical industry.

If we built extraurban coal-fired heat-and-power plants for combined production of thermal energy and electric power we could use a domestic energy source—coal—in the shortest possible time, virtually at once, on the basis of present technologies and without additional investments of labor, money and time to research and develop new technologies and processes.

Having examined the basic potential and relevance of building an extraurban lignite-fired heat-and-power plant, on the one hand, and the coincidental schedule for construction of power facilities in the Kolubara REIK and the growth of heat consumption in Belgrade on the other, the Kolubara B Thermal Electric Power Plant, together with other interested organizations and entities, undertook detailed elaboration of this idea in order to ascertain the actual possibilities of furnishing thermal energy for heating Belgrade from the Kolubara B Thermal Electric Power Plant.

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BRIEFS

COST OF LIVING--According to data from the Federal Institute for Statistics, the cost of living increased 19.9 percent from January to the end of November this year. The largest increase was in transportation and communication costs, namely, a 32.2 percent increase. Costs for health care, tobacco and beverages, and for food increased by 16.6 to 17 percent. In November the cost of living rose 2 percent over October. Contributing most to this was the 3.3 percent increased cost of food items; the costs of heating and lighting rose 2.2 percent. Compared to last year's average, the cost of living in November was 29.3 percent higher, while compared to November 1978, it was 21.4 percent higher. [Text] [Belgrade BORBA in Serbo-Croatian 15 Dec 79 p 16]

LOW KOSOVO PRODUCTION--In the January-September 1979 period Kosovo produced 5.7 million tons of coal (22 percent below the plan), and 2.9 million megawatt-hours of electricity (26.2 percent below the plan); the situation was similar in the production of lead, zinc, basic chemicals, and construction materials. Unfavorable trends were also noted in foreign trade in which only 49 percent of imports were covered by exports. Although total revenue grew by 32.7 percent, income by 37.7 percent, and funds for reproduction by 31 percent, losses, totaling 970 million dinars, considerably worsened the economic situation in the province. Next year the social product is expected to increase by 7 percent, employment by 6 percent, labor productivity by 1.6 percent, industrial production by 7.4 percent, and agricultural production by 4.1 percent. [Excerpt] [Belgrade PRIVREDNI PREGLED in Serbo-Croatian 13 Dec 79 p 1]

ENERGY FORECAST--According to Stojan Matkalijev, president of the Federal Committee for Energy and Industry, electric power needs will increase 8.7 percent in 1980 and will amount to 59.9 billion kilowatt-hours. It is, however, assumed that somewhat less than this will be consumed, i.e., 58.3 billion kilowatt hours. An exceptionally large increase of 20 percent is expected in coal needs, since new plants will be put into operation. If needs do not exceed the planned 53 million tons, some quantities of coal can be exported. The exception is coke, the need for which is expected to increase by 32.7 percent, because of the new blast furnace in Zenica.

However, coke will not be imported, but rather coal, which will be converted into coke. The slight increase in the [anticipated] need for crude oil is the result, he said, of present and future measures to save liquid fuel. Thus, it is estimated that 16.7 million tons of oil will be adequate to meet needs, or 0.8 percent more than in the previous year. Of this amount, 4.2 million tons will be from domestic sources. Oil-derivative needs will be 2 percent more than this year. It is assumed that 4.6 billion cubic meters of gas will be consumed, or 39.4 percent more than at present. In terms of caloric value, Matkalijev said that 44.5 percent of total energy needs will be met through imports, or 1 percent more than now but this increase is not caused by oil but by the import of coal for coking. Matkaliev said the debate on energy consumption and production for next year is not likely to change essentially the relations in production, consumption, imports and exports. [Excerpt] [Belgrade BORBA in Serbo-Croatian 12 Dec 79 p 4]

MONTENEGRIN DEPENDENCE ON VOJVODINA--The province of Vojvodina provides Montenegro with 100 percent of its corn and wheat needs, 80 percent of its sugar and 40 percent of its flour needs. [Excerpt] [Belgrade PRIVREDNI PREGLED in Serbo-Croatian 12 Dec 79 p 11]

KOSOVO POPULATION, EMPLOYMENT--The Kosovo population in 1980 is expected to be about 1,592,000; the rural population is expected to decline from 45 percent of the total in 1975 to 36.3 percent in 1980. The proportion of those of working age in the population increased in the first 3 years of the 1976-1980 plan from 26.6 percent in 1978. In the 1976-80 period the rate of employment was only 5.6 percent (8,470 workers) instead of the planned 7.5 percent (11,700 workers). In the 1976-80 period, infant mortality declined from 80.3 per 1,000 live births in 1975 to about 67 per 1,000 live births expected in 1980. The general mortality rate has also declined, as has the number of cases of infectious diseases, especially tuberculosis. The number of physicians increased from 606 in 1975 to 850 expected in 1980, while the number of medical workers with a higher than secondary school education is expected to reach 4,000 in 1980 compared to 2,880 in 1975. [Excerpt] [Pristina DELEGATSKE NOVINE in Serbo-Croatian 6 Dec 79 pp 5, 7]

PRODUCTION OF ELECTRICITY--In the first 11 months of this year 44,322 GWh [gigawatt hours] of electric power were produced, or 5.5 percent more than in the same 1978 period, but the planned increase was 10 percent. Hydroelectric power plants produced 23,165 GWh, approximately that produced last year. Thermoelectric power plants increased production by 12 percent, although production was about 15 percent below the plan; those based on liquid fuel failed to meet the plan by 30 percent, while production in those based on coal was 13 percent below the plan. Water in storage lakes in the first 11 months was sufficient to produce 24,613 GWh or about 11 percent more than in the same 1978 period and 25 percent more than planned. Because of warm weather, consumption has been less so there has not been a need for greater use of thermoelectric power plants. [Excerpt] [Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 10 Dec 79 p 34]

MONEY SUPPLY IN 1980--The money supply in 1980 will be increased 22 percent or by 85 billion dinars. Funds of OURs (organizations of associated work) will increase fastest, namely, 23 percent, or 37.5 billion dinars. The fnds of sociopolitical communities (federation, republics, provinces, opstinas) will increase 21 percent or by 24 billion dinars. It is anticipated that funds for general public and social service expenditures will increase more slowly than the total money supply. Cash in circulation and on transfer and current accounts of the population will increase by 21 percent or 20.5 billion dinars. Money in payments transactions will increase more slowly than the volume of goods-monetary transactions; i.e., the increase will be 19 percent or 3 billion dinars. The smaller increase will be compensated by the accelerated circulation of money based on the anticipated improvement in the status and relations in payments transactions. From 1975 to 1978 the rate of increase of cash in circulation declined; namely, the coefficient of [money in] circulation (the relation between nominal production and the average money supply) declined from 4.3 to 3.1 percent in 1978. This year it was increased to 3.2 percent; it is expected that this will not change in 1980. Changes in 1980 are expected in regard to formation of the money supply. Namely, 20 billion dinars will go out of the country in foreign exchange transactions (the deficit abroad will amount to $2.5 billion, considerably less than this year. Transfer of money into non-monetary deposits (bank obligations) will increase by 21 percent. Total outflow of money for imports and non-monetary obligations will amount to 169 billion dinars. This will be compensated by the 22 percent increase in the money supply (85 billion dinars) provided from bank credits. These credits will increase at the same rate as the money supply and will amount to 255 billion dinars. This year credits have risen faster than the money supply. In 1980 this will not be the case: the increase in money supply will be provided through a more moderate granting of bank credits. [Excerpts] [Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 19 Nov 79 p 32]

NONFERROUS METALS PRODUCTION--In the last 4 years (and it is expected also in 1979) the planned annual rate of development has not been nearly met: the production of bauxite increased at an annual rate of 3.6 percent (11.5 percent was planned), alumina 19.3 percent (40.9 percent was planned), aluminum 5.3 percent (16.8 percent was planned), and copper 3.3 percent (6.2 percent was planned). Compared to 1975, lead production declined by 8 percent (a 13.7 percent increase was planned) and zinc production declined by 6 percent (a 11.5 percent increase was planned). Instead of the 11-percent increase planned in nonferrous metals production as a whole, an increase of 5.5 percent has been achieved, whereby ore and metal production has lagged but manufacturing capacities have increased at an above-plan annual rate of 10.5 percent. The goal of developing the raw material sector more rapidly and the processing sector more slowly (thereby achieving a larger supply of domestic raw materials) has not only not been attained but the disproportion between the need for and production of basic nonferrous metals has increased, creating the need for larger raw material imports. The net foreign exchange result in this production field has significantly worsened, because more and more raw materials and metals have had to be imported, while exports have been carved out under very unfavorable conditions. [Excerpt] [Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 17 Dec 79 pp 17-18]

SUNFLOWER SEED HULL TO REPLACE MAZUT--The [sunflower] oil industry of the "Sombor" agricultural combine spends 2,100 tons of mazut per year for the production of technological steam and for heating. For now this quantity is sufficient to satisfy the needs for the production of unprocessed oil. However, reconstruction of the refinery is in process and at the beginning of spring the production of edible oil is going to begin and the needs for mazut will double. On the basis of the petroleum crisis in the world and of a constant increase in the price of petroleum and its derivatives, the "Sombor" [sunflower] oil factory is returning to an old idea of heating the boilers by using sunflower hulls instead of mazut. The chemical composition of the hull made its use as fuel for heating the boilers impossible. This problem has been solved and "Minel" enterprise in Belgrade is building a boiler which, besides mazut, will be able to also use sunflower hulls as fuel. Two and a half kilograms of hulls will replace one kilogram of mazut. This will bring an annual savings of 7 million dinars. [Novi Sad PRIVREDNA TRIBINA in Serbo-Croatian 5 Dec 79 p 3]

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